



411 4th Avenue
Fairbanks, AK 99701
Phone: (907) 474-2011
Fax: (907) 474-2001

www.allalaskagasline.com

Appendix G- 5 thru G-9

Binder 4

AGIA License Application November 30, 2007

Board of Directors:

Mayor Jim Whitaker, Chairman · Mayor Bert Cottle, Vice-Chair · Merrick Peirce, Treasurer ·
Dave Cobb, Secretary · Luke Hopkins · Dave Dengel · Rex Rock · Randy Hoffbeck · Harold Curran

APPENDIX G-5

Ahtna Corporation Right of Way Agreement

(Confidential)

**THIS PAGE CONTAINS PROPRIETARY OR TRADE
SECRET INFORMATION THAT IS CONFIDENTIAL TO
THE PORT AUTHORITY, WHO REQUESTS THAT THE
INFORMATION BE KEPT CONFIDENTIAL AND
EXEMPT FROM PUBLIC DISCLOSURE TO THE
EXTENT PROVIDED IN AS 43.90.150 & AS 43.90.160**

Appendix G-5 – Ahtna Corporation Right of Way Agreement

AGPA requests confidential treatment of information contained in Appendix G-5 - Ahtna Corporation Right of Way Agreement to its AGIA Application.

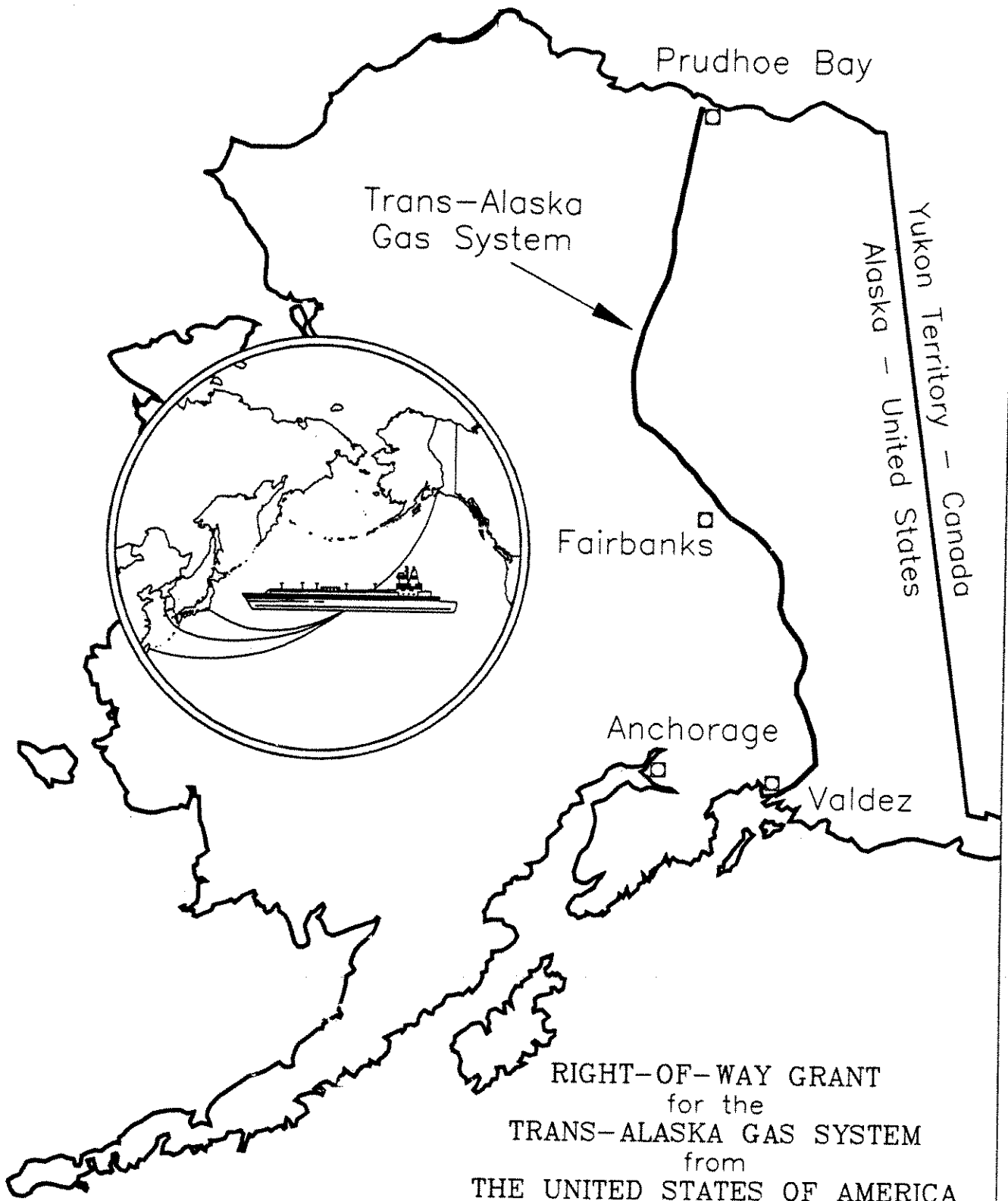
The Ahtna Corporation Right of Way Agreement marked as Appendix G-5 to AGPA's AGIA application consists of and contains proprietary information (as defined by AS 43.90.900 (20) and Trade Secrets (as defined by AS 45.50.940 (3)). The Ahtna Corporation Right of Way Agreement contains proprietary information and valued intellectual property and release of this information would cause significant damage to AGPA and its project. There is no question that release of the information "... would adversely affect the competitive position of the applicant or materially diminish the commercial value of the information to the applicant[.]" AS 43.90.900 (2). Moreover, the information "... derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use;" and "... is the subject of efforts that are reasonable under the circumstances to maintain its secrecy." AS 45.50.940 (3).

Brief non-confidential summary pursuant to AS 43.90.160:

The information contained in Appendix G-5 consists of a Right of Way Agreement between YPC and the Ahtna Corporation. Please note that the Ahtna Corporation Right of Way Agreement does not lend itself to being copied with the proprietary or trade secret information redacted.

APPENDIX G-6

Federal Pipeline ROW Grant



RIGHT-OF-WAY GRANT
for the
TRANS-ALASKA GAS SYSTEM
from
THE UNITED STATES OF AMERICA
to
THE YUKON PACIFIC CORPORATION

NOZHENIS - THAG ZPAT

Table of Contents

<u>Section</u>	<u>Page</u>
1 Grant of Right-of-Way . . . . .	.1
2 Purpose of Grant; Limitation of Use to Holder . . . . .	.2
3 Transportation of Gas . . . . .	.2
4 Exhibits; Incorporation of Certain Documents by Reference . . . . .	.3
5 Width of Right-of-Way . . . . .	.3
6 Location of Right-of-Way . . . . .	.4
7 Duration of Right-of-Way Grant . . . . .	.5
8 Rental Fee for Right-of-Way . . . . .	.6
9 Quality Assurance and Control . . . . .	.6
10 Compliance with Notices to Proceed . . . . .	.8
11 Reservation of Certain Rights to the United States . . . . .	.8
12 Reimbursement of Department of the Interior's Expenses . . . . .	.9
13 Liability	10
14 Indemnification of the United States	11
15 Bonding	12
16 Insurance	13
17 Laws and Regulations	13
18 No Right of Set Off	14
19 Right of United States to Perform	14
20 Liens	14
21 Duty of Holder to Abate	15
22 Temporary Suspension Orders of Authorized Officer	15
23 Appeal Procedures	16
24 Civil Rights	16
25 Native and Other Subsistence	16
26 Termination or Suspension of Right-of-Way	16
27 Release of Right-of-Way	17
28 Access to Documents	18
29 Rights of Third Parties	19
30 Covenants Independent	19
31 Partial Invalidity	19
32 Waiver Not Continuing	19
33 Remedies Cumulative; Equitable Relief	19
34 Section Heading	19
35 Authority to Enter Grant	20
36 Acceptance of Grant	20
Exhibit A. Alignment Maps and Site Location Drawings Identifying the General Route of the Pipeline	
Exhibit B. Stipulations for the Grant of Right-of-Way for the Trans-Alaska Gas System	
Exhibit C. Requirements of the Department of Defense Relating to Military Installations	
Exhibit D. Requirements of the National Oceanic and Atmospheric Administration	

GRANT OF RIGHT-OF-WAY FOR THE
TRANS-ALASKA GAS SYSTEM

1. RIGHT-OF-WAY GRANT* (Serial Numbers F-83941 and AA-53559)

A. Pursuant to Section 28 of the Mineral Leasing Act of 1920, as amended (30 U.S.C. 185), and the regulations of the Department of the Interior in Title 43, Code of Federal Regulations, Part 2880, the United States of America (hereinafter referred to as the United States) does hereby grant to the Yukon-Pacific Corporation (hereinafter referred to as HOLDER), a corporation formed under the laws of the State of Alaska, whose mailing address is:

Yukon Pacific Corporation
P.O. Box 10-1700
Anchorage, Alaska 99510

A RIGHT-OF-WAY across certain FEDERAL LANDS for the construction, OPERATION and termination of one natural GAS PIPELINE and RELATED FACILITIES, as such lands are identified by HOLDER'S alignment maps and site location drawings, Series TAGS-01, consisting of 31 sheets dated May 1, 1988, attached hereto as Exhibit A. The effective date of this grant is October 17, 1988.

B. Excluded from this GRANT are: lands which are the subject of valid applications for allotments made pursuant to the Act of May 17, 1906, as amended, (34 Stat 197), which were pending before the Department of the Interior on or before December 18, 1971, and which were not knowingly and voluntarily relinquished by the applicant thereafter.

C. There is hereby reserved to the United States all rights reserved, or directed to be reserved, to the United States under any applicable law or regulation of the United States or elsewhere under this GRANT.

D. The GRANT hereby made is subject to:

- (1) the provisions of this GRANT;
- (2) all applicable laws and regulations of the United States; and
- (3) any valid existing rights in the lands subject to the RIGHT-OF-WAY, including without limitation the valid pre-existing rights, if any, of the State of Alaska and the holders of the Grants of Rights-of-Way for the TRANS-ALASKA PIPELINE SYSTEM and the ALASKA NATURAL GAS TRANSPORTATION SYSTEM

* Terms having special meaning in the body of this RIGHT-OF-WAY GRANT or in the STIPULATIONS (Exhibit B hereof) are capitalized.

Definitions of such terms are found in Exhibit B.

2. Purpose of GRANT; Limitation of Use to HOLDER

A. The RIGHT-OF-WAY is granted for the purpose of the construction, OPERATION and termination of one (1) GAS transportation PIPELINE, consisting of one (1) line of thirty-six (36) inch diameter pipe and its RELATED FACILITIES.

B. HOLDER, its agents, contractors, and subcontractors (at any tier) shall not use the RIGHT-OF-WAY or the land subject thereto for any other purpose and shall not locate or construct any other pipelines (including looping lines) or other improvements within the RIGHT-OF-WAY without the prior written approval of the AUTHORIZED OFFICER.

C. The PIPELINE and RELATED FACILITIES shall be used for only the transportation of GAS, and it shall not be used for any other purpose without the prior written approval of the AUTHORIZED OFFICER.

D. HOLDER shall not allow or suffer any other PERSON or BUSINESS ENTITY to use the RIGHT-OF-WAY for the purpose set forth in Section 2.A. above.

E. Nothing in Section 2.D. above is intended to:

- (1) excuse or preclude HOLDER from complying with its obligations under Section 3 of this GRANT, or
- (2) preclude HOLDER from employing agents, contractors, or subcontractors (at any tier) to effect construction, OPERATION or termination of the PIPELINE SYSTEM.

F. Prior to beginning construction of the PIPELINE SYSTEM, HOLDER shall obtain necessary authorizations and Presidential findings as may be required by the Alaska Natural Gas Transportation Act, 15 USC 719j., the Natural Gas Act, 15 USC 717 et seq., the Energy Policy and Conservation Act, 42 USC 6212, relative to the exportation of North Slope Alaskan Gas, and such reasonable assurances by the HOLDER that the Anderson Bay LNG Facility will meet appropriate Federal and State design, location, and construction standards.

3. Transportation of GAS

HOLDER shall, in accordance with the provisions of Section 28 of the Mineral Leasing Act of 1920, as amended:

A. Construct, operate, and maintain the PIPELINE as a common carrier;

B. Accept, convey, transport, or purchase, without discrimination, GAS delivered to the PIPELINE without regard to whether such GAS was produced on Federal or non-Federal lands; and

C. Accept, convey, transport, or purchase, without discrimination, GAS produced from Federal lands or from the resources thereon in the vicinity of the PIPELINE in such proportionate amounts as the AUTHORIZED OFFICER may, after a full hearing with due notice thereof to HOLDER and a proper finding of facts, determine to be reasonable.

4. Exhibits; Incorporation of Certain Documents by Reference

A. The Exhibits attached and listed below in this subsection are, by this reference, incorporated into and made a part of this GRANT as fully and effectually as if the Exhibits were set forth herein in their entirety:

- (1) List of applications and accompanying alignment maps and site location drawings identifying the general route of the PIPELINE and its RELATED FACILITIES, attached hereto as Exhibit A.
- (2) STIPULATIONS for the GRANT of RIGHT-OF-WAY for the Trans-Alaska Gas System, being numbered 1. through 3.9.2., inclusive, attached hereto as Exhibit B, which are sometimes referred to in this GRANT as the "STIPULATIONS."
- (3) Requirements of the Department of Defense relating to military installations, attached hereto as Exhibit C.
- (4) Requirements of the National Oceanic and Atmospheric Administration relating to that agency's installation, attached hereto as Exhibit D.

B. The terms, conditions and STIPULATIONS contained herein are hereby incorporated, where applicable, in all other use authorizations issued in support of field activities relative to and including the construction, OPERATION and termination of the PIPELINE SYSTEM requiring use of FEDERAL LANDS.

5. Width of RIGHT-OF-WAY

The width of the RIGHT-OF-WAY, in terms of surface measurement, is fifty (50) feet plus the ground occupied by the PIPELINE; provided, however, that up to and including the date on which HOLDER may file an application for modification of the RIGHT-OF-WAY boundaries in accordance with Section 6. D. hereof, HOLDER may apply for, and the AUTHORIZED OFFICER may direct or

authorize, increases in the width of the RIGHT-OF-WAY at specified points if, it is found and the reasons for such findings are recorded, that in the judgment of the AUTHORIZED OFFICER, a wider RIGHT-OF-WAY is necessary for OPERATION of the PIPELINE after construction, or is necessary to protect the environment or provide for public health and safety.

6. Location of RIGHT-OF-WAY

A. The siting of the PIPELINE and its RELATED FACILITIES shall be determined in accordance with the provisions of STIPULATIONS 1.9.

B. After completion of construction of the PIPELINE, the FEDERAL LANDS subject to the RIGHT-OF-WAY shall be the land occupied by the PIPELINE and, in terms of surface measurement, twenty-five (25) feet on each side of the PIPELINE measured from its outermost extremities. With respect to RELATED FACILITIES, the width shall be twenty-five (25) feet around the perimeter of the RELATED FACILITY.

C. Upon completion of construction of the PIPELINE and its RELATED FACILITIES within a MAPPING SEGMENT, as well as upon the issuance of any authorization or directive that the AUTHORIZED OFFICER may issue in accordance with the provisions of Section 5 hereof, HOLDER shall, if directed by the AUTHORIZED OFFICER, physically mark on the ground the proposed boundaries of the RIGHT-OF-WAY at such locations and in such manner as is acceptable to the AUTHORIZED OFFICER.

D. At any time prior to the sixtieth (60th) day preceding the filing of the maps of survey as provided in Section 6. E. hereof, HOLDER may file an application for modification of the RIGHT-OF-WAY boundaries provided that, after modification, the RIGHT-OF-WAY will include the ground occupied by the PIPELINE plus fifty (50) feet adjacent thereto and such additional land as authorized by the AUTHORIZED OFFICER pursuant to Section 5 hereof. Upon approval of such application for modification of boundaries and acceptance of the documents and maps required by Section 6. E. hereof, the RIGHT-OF-WAY shall be as delineated on said maps of survey.

E. Within three hundred and sixty (360) days after the first date of acceptance of GAS for shipment in the PIPELINE (and, in the case of any addition, deletion or alteration of the PIPELINE or a RELATED FACILITY following the date of first acceptance of GAS for shipment, within one hundred and eighty (180) days after the addition, deletion or alteration has, in the judgment of the AUTHORIZED OFFICER, been fully completed), HOLDER shall survey and provide adequate monumentation to locate and describe the RIGHT-OF-WAY and shall file:

- (1) proof of construction of the PIPELINE and its RELATED FACILITIES in accordance with the applicable regulations of the DEPARTMENT;
- (2) such documents of relinquishment of land not included in the modified RIGHT-OF-WAY, if any, as may be required by the AUTHORIZED OFFICER;
- (3) appropriate references to applications in which requests were made for RIGHT-OF-WAY widths greater than the normal limitations specified in Section 5 of this GRANT, and applications for modification of the RIGHT-OF-WAY boundaries as provided in Section 6. D, hereof; and
- (4) a map, or maps of survey, prepared in such manner as shall be required by the AUTHORIZED OFFICER, showing: the final "as-built" location of the completed PIPELINE and its RELATED FACILITIES, including the final locations of all buried and above ground improvements; the centerline of the PIPELINE, as definitely located, and, referenced to the PIPELINE centerline, the boundaries of the RIGHT-OF-WAY, as definitely located.

Each portion of the PIPELINE and its RELATED FACILITIES as depicted on the said survey map or maps, and for which a NOTICE TO PROCEED, or an authorization, issued in accordance with Stipulation 1.10.5. altering either the route or the initially approved location along the route of the RIGHT-OF-WAY, has been issued, shall be referenced to the relevant NOTICE TO PROCEED or other authorization.

7. Duration of RIGHT-OF-WAY GRANT

A. The GRANT hereby made of the RIGHT-OF-WAY shall come to an end and expire on the 17th October 2018, at noon, Anchorage, Alaska time, unless prior thereto it is relinquished, abandoned, or otherwise terminated pursuant to the provisions of this GRANT or of any applicable Federal law or regulation.

B. Upon expiration of the initial or any subsequent RIGHT-OF-WAY GRANT, or its earlier relinquishment, abandonment, or other termination, the provisions of this GRANT, to the extent applicable, shall continue in effect and shall be binding on the parties hereto, their successors or assigns, until they have fully performed their respective obligations and liabilities accruing before or on account of the expiration, or the prior termination, of the GRANT.

C. The RIGHT-OF-WAY shall be renewed, subject to and in accordance with the provisions of Section 28 of the Mineral Leasing Act of 1920, as amended and applicable regulations.

D. Any subsequent conveyance, transfer or other disposition of any right, title or interest in the FEDERAL LANDS or any part thereto, burdened by and subservient to the RIGHT-OF-WAY, shall, to the extent allowed by law, be subject to the RIGHT-OF-WAY and the provisions of this GRANT, including HOLDER'S right to renew the RIGHT-OF-WAY under Section 7. C.

8. Rental Fee for RIGHT-OF-WAY

A. HOLDER shall pay to the United States, annually and in advance, the fair market rental value of the RIGHT-OF-WAY, as determined by the AUTHORIZED OFFICER. (Such rental value is hereinafter called the "rental fee.")

B. The initial rental fee shall be Thirty Thousand Seven Hundred Fifty and no/100 dollars (\$30,750.00) for each calendar year. The first annual rental fee shall be prorated to cover the portion of the calendar year 1988 which remains after the effective date hereof and shall be due and payable by not later than the effective date hereof. The rental fee for the first full calendar year commencing after the effective date hereof and for each subsequent calendar year shall be due and payable by not later than the last full business day immediately preceding the first day of January of the calendar year for which the rental fee is payable. The rental fee for each calendar year shall be billed to HOLDER at least thirty (30) days in advance of the due date thereof. All such payments shall be delivered to the AUTHORIZED OFFICER and shall be accepted subject to collection.

C. The rental fee for each succeeding calendar year shall be subject to adjustment from time to time in accordance with the regulations of the DEPARTMENT. The AUTHORIZED OFFICER also may adjust retroactively the amount of the annual rental fee for any calendar year that is based on an appraisal which is made before the RIGHT-OF-WAY is, in its entirety, finally located, surveyed and monumented; any sum determined by the AUTHORIZED OFFICER to be payable (by either the United States or HOLDER) in connection with an adjustment, as provided for in this sentence, shall be due and payable within thirty (30) days after notice is given of the amount due.

9. Quality Assurance and Control

A. The quality assurance and quality control programs shall be comprehensive and designed to assure that the applicable requirements of 49 CFR Part 192 and environmental and technical STIPULATIONS will be incorporated in the FINAL DESIGN and complied with throughout all phases of construction, OPERATION

and termination of the PIPELINE SYSTEM. The HOLDER shall provide for continuous inspection of PIPELINE construction to ensure compliance with the approved design specifications and these STIPULATIONS. The term "continuous inspection" as used in this STIPULATION means that at least one inspector is observing each PIPELINE construction operation where PIPELINE integrity is involved (e.g., the pipe gang, backend welders, weld non-destructive testing, coating and wrapping, bedding, lowering-in, padding and backfill) at all times while that construction is being performed or where PIPELINE construction operations are proximate to the TRANS-ALASKA PIPELINE SYSTEM or the ALASKA NATURAL GAS TRANSPORTATION SYSTEM.

B. At a minimum, the following shall be included in the quality assurance program:

- (1) Procedures for the detection and prompt abatement of any actual or potential procedure, activity, event or condition, of an adverse nature, that:
 - (a) Is susceptible to abatement by the HOLDER;
 - (b) Could reasonably be expected to arise out of, or affect adversely, design, construction, OPERATION or termination of all or any part of the PIPELINE SYSTEM; and
 - (c) That at any time may cause or threaten to cause:
 - (i) A hazard to the safety of workers or to public health or safety, including but not limited to personal injury or loss of life of any person;
 - (ii) SIGNIFICANT DAMAGE to the environment, including but not limited to areas of vegetation or timber, fish or other wildlife populations or their habitats, subsistence use, or any other natural resource; or
 - (iii) Serious and irreparable harm or damage to existing private improvements on or in the general vicinity of the right-of-way area;
- (2) Procedures for the relocation, repair or replacement of improved or tangible property and the rehabilitation of natural resources (including but not limited to REVEGETATION, restocking fish or other wildlife populations, and reestablishing their habitats) seriously damaged or destroyed if the immediate cause of the damage or destruction results from construction, OPERATION or termination of all or any part of the PIPELINE SYSTEM;

- (3) Methods and procedures for achieving component and subsystems quality through proper design and specification;
- (4) Methods for applying quality assurance and quality control criteria in the selection of the HOLDER'S contractors and subcontractors, and contract purchases of materials and services;
- (5) A plan for collecting, recording, storing, retrieving and reviewing data to assure that quality has been attained, including procedures for initiating and maintaining adequate records of inspections, identification of deviations and completion of corrective actions;
- (6) Specific methods of detecting deviations from designs, plans, regulations, specifications, stipulations and permits (including establishing effective procedures for timely evaluation and correction of field non-conformance problems) as the basis for initiating corrective action to preclude or rectify the hazards, harm or damage referenced in Sections 9 B. (1) and 9 B. (2) of these STIPULATIONS;
- (7) Inspection, testing and acceptance of components, sub-systems and subassemblies; and
- (8) A plan for conducting surveys and field inspections of all facilities, processes and procedures of the HOLDER, its contractors, subcontractors, vendors and suppliers critical to the achievement of quality.

C. The HOLDER (including its agents, employees, contractors and subcontractors and the employees of each of them) shall comply with the quality assurance and control program as approved and HOLDER shall submit reports to the AUTHORIZED OFFICER to demonstrate such compliance. Such reports shall be submitted quarterly unless otherwise requested by the AUTHORIZED OFFICER.

10. Compliance with NOTICES TO PROCEED

All construction of the PIPELINE SYSTEM undertaken by HOLDER shall comply in all respects with the provisions of applicable NOTICES TO PROCEED issued by the AUTHORIZED OFFICER.

11. Reservation of Certain Rights to the United States

A. The United States reserves and shall have a continuing and reasonable right of access to any part of the lands (including the subsurface of, and the air space above, such lands) that are

subject to the RIGHT-OF-WAY, and a continuing and reasonable right of physical entry to any part of the PIPELINE SYSTEM for inspection or monitoring purposes and for any other purpose or reason that is reasonably consistent with any right or obligation of the United States under any law or regulation, this GRANT, or any other grant, permit or authorization relating in whole or in part to all or any part of the PIPELINE SYSTEM.

B. The rights of access and entry reserved in Section 11. A. shall extend to and be enjoyed by any contractor of the United States, any subcontractors (at any tier) of the contractor and their respective agents and employees, as well as such other PERSONS, as may be designated from time-to-time in writing by the AUTHORIZED OFFICER.

C. There is reserved to the United States the right to grant rights-of-way, permits, easements or other authorizations to third parties for compatible uses on, or adjacent to, the lands subject to the RIGHT-OF-WAY. Before the United States grants an additional authorization for a compatible use, the United States will notify HOLDER of its intentions and shall consult with HOLDER before taking final action in that regard.

12. Reimbursement of Department of the Interior Expenses

A. HOLDER shall reimburse the United States for administrative and other costs incurred directly or indirectly for:

- (1) processing applications filed by HOLDER in connection with the PIPELINE SYSTEM; and
- (2) monitoring the construction, OPERATION and termination of all or any part of the PIPELINE SYSTEM, all in accordance with the Mineral Leasing Act of 1920, as amended, 30 U.S.C. 185(1), and applicable regulations.

B. If the HOLDER disputes any item of a statement that shall be rendered for prepayment of estimated expenses, or for payment of actual expenses incurred, as to either the need for or cost of the work done, it shall promptly notify the AUTHORIZED OFFICER. The AUTHORIZED OFFICER shall meet with the HOLDER promptly in an effort to resolve the dispute. If the dispute remains unresolved, the HOLDER shall make payment and may do so under protest, subject to appeal after audit.

C. Whether or not, pursuant to Section 12. B. as above, the HOLDER disputes an item or pays an amount under protest, the HOLDER shall have the right to conduct, at its own expense, reasonable audits by auditors or accountants designated by the HOLDER, of the books, records, and documents of the United States including its independent consultants and/or contractors relating to the items on any particular statement that shall be submitted,

at the places where such books, records, and documents are usually maintained, and at reasonable times; provided, however, that written notice of a desire to conduct such an audit must be given the AUTHORIZED OFFICER by not later than the seventy-fifth (75th) day after receipt by the HOLDER of a report of actual expenses incurred during the quarter; and provided further, that any such audits shall be completed within ninety (90) days after filing of said notice. After completion of an audit, the AUTHORIZED OFFICER shall meet with the HOLDER with respect to any items still in dispute and shall thereafter rule on the matter and make appropriate adjustments of the HOLDER account. To the extent the dispute is not resolved, the HOLDER may appeal to the SECRETARY pursuant to the procedures set forth in 43 CFR, Part 4.

13. Liability

HOLDER shall be liable for damage or injury to the United States to the extent provided by Section 28(x) of the Mineral Leasing Act of 1920, as amended 30 USC 185(x), and 43 CFR 2883.1-4 as such regulations exist or as they may be promulgated in the future. HOLDER shall be held to a standard of strict liability for damage or injury to the United States resulting from any of the following, occurring in the RIGHT-OF-WAY area, in connection with the construction, OPERATION or termination of the PIPELINE SYSTEM:

A. Fire or explosion caused by any of the following activities: operation of motorized or electrical equipment, welding, smoking, open burning, transportation of GAS through the PIPELINE, and transportation, storage or use of flammable or explosive substances;

B. Degradation of permafrost, erosion of soil and/or undermining or weakening of soil which supports structures or facilities caused by any of the following activities: operation of vehicles or mobile equipment, excavation or placement of gravel, clearing, grubbing or earth moving, maintenance of the PIPELINE in the dormant condition, and construction or maintenance of buildings or other RELATED FACILITIES;

C. Spillage of OIL caused by any of the following activities: transportation or use of petroleum products, and any activity which directly or indirectly causes a puncture or break in the TRANS-ALASKA PIPELINE SYSTEM;

D. Leakage of GAS, fire or explosion caused by any activity which directly or indirectly causes a puncture or break in the ALASKA NATURAL GAS TRANSPORTATION SYSTEM.

However, this section shall not apply to damage or injury resulting primarily from an act of war or negligence of the United States. The maximum limitation shall not exceed one

million dollars (\$1,000,000.00) for any one event and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage occurred.

14. Indemnification of the United States

A. HOLDER shall indemnify and hold harmless the United States, its agents and employees, against and from any and all liabilities or damages of any nature whatsoever which the United States, its agents, employees, contractors or subcontractors (at any tier) become legally obligated to pay, and which arise out of, or are connected with, any one or more of the following:

- (1) the construction, OPERATION or termination of the PIPELINE SYSTEM;
- (2) the approval (as distinguished from the ordering of a modification pursuant to STIPULATION 1.3.3.) by the United States, its agents, employees, contractors or subcontractors (at any tier), of any design, plan, CONSTRUCTION MODE, construction or research pertaining to the PIPELINE SYSTEM or any part thereof; or
- (3) the physical entry by any PERSON upon, or the use or occupancy by any PERSON of, any FEDERAL LAND that is the subject of any use or right which is granted or afforded to HOLDER, or to their respective agents, employees, contractors or subcontractors (at any tier) in connection with the PIPELINE SYSTEM; provided, however, that the provisions of items (1) and (3) of this Section shall not be deemed to apply to liabilities or damages that are caused:
 - (a) by an act of war; or
 - (b) solely by
 - (i) the negligence of the United States, and/or
 - (ii) the negligence or willful misconduct of an agent, employee, contractor or subcontractor (at any tier) of the United States not acting within the scope of his authority or employment, and/or

(iii) the negligence or willful misconduct of PERSONS who are authorized to enter upon, use or occupy the damaged property or areas pursuant to any Federal lease, permit, or other written authorization that is issued for any use or purpose other than in connection with the construction, OPERATION or termination of the PIPELINE SYSTEM.

B. HOLDER shall be notified in writing of any claim for which indemnity under the provisions of this section is sought, and such claim shall not be compromised without the written consent of HOLDER, which consent HOLDER agrees shall not be unreasonably withheld or delayed.

15. Bonding

A. The HOLDER shall furnish the United States a surety bond or other security of such type and on such terms and conditions as are acceptable to the AUTHORIZED OFFICER in the principal amount of one million dollars (\$1,000,000.00). Said bond or other security shall be maintained in force and effect in the full principal amount, or in such reduced amount as may be approved by the AUTHORIZED OFFICER, at all times during the term of this GRANT and until released in writing by the AUTHORIZED OFFICER. Such release will not be unreasonably withheld upon the expiration of the term of this GRANT, including any renewals of this GRANT, and completion of the HOLDER'S obligations under this GRANT and applicable regulations.

B. Said bond or other security shall be security for payment of any sums owing to the United States pursuant to the provisions of Sections 13 and 19 of this GRANT.

C. These requirements are in addition to all other requirements of law, and are not intended to affect, nor are they intended to limit in any way, the HOLDER'S liability under any provision of law.

D. Prior to the issuance of the first NOTICE TO PROCEED for PIPELINE construction, the HOLDER shall furnish additional security in the amount of four million dollars (\$4,000,000.00) of such type and on such terms and conditions as are acceptable to the AUTHORIZED OFFICER. The requirement for such additional security shall be released in writing by the AUTHORIZED OFFICER after completion of construction and commencement of initial OPERATION of the PIPELINE. Such release will not be unreasonably withheld.

E. The AUTHORIZED OFFICER reserves the right to require additional security from the HOLDER if at any time the AUTHORIZED OFFICER determines it necessary in connection with construction, OPERATION or termination of the PIPELINE SYSTEM.

16. Insurance

The HOLDER hereby agrees to provide and maintain in force throughout the term of this GRANT appropriate liability insurance, including but not necessarily limited to policies for comprehensive general liability, automobile liability, and owned and non-owned aircraft liability. Coverage shall, to the reasonable satisfaction of the AUTHORIZED OFFICER, insure HOLDER'S liabilities for accidental occurrences imposed on it by operation of the requirement for indemnification of the United States contained in this GRANT. The United States shall be added to the above-described policies as an additional insured with respect to such liabilities. Provided, however, the AUTHORIZED OFFICER is authorized to review the amount of insurance required for this purpose at least every five years and to increase or decrease the amount required to reflect changed economic factors and conditions. Initially, coverage shall be in the minimum amount of \$5 million per occurrence. When use authorizations are issued for use and occupancy of any FEDERAL LANDS relative to PRE-CONSTRUCTION activities for the pipeline system, coverage shall be in the minimum amount of \$150 million per occurrence. Subsequent to approval by the AUTHORIZED OFFICER of the DESIGN CRITERIA and FINAL DESIGN for PIPELINE SYSTEM construction, and when HOLDER commences field activities pursuant to the first NOTICE TO PROCEED for such construction, such insurance shall be in the minimum amount of \$250 million per occurrence. When the PIPELINE SYSTEM has been placed into operation and provided that the HOLDER can demonstrate to the AUTHORIZED OFFICER net worth of \$500 million as evidenced by appropriate financial statements of HOLDER in its latest annual report to stockholders, such coverage shall then be required solely for the purpose of insuring the HOLDER'S aforestated obligations to the United States, and the minimum amount shall be \$50 million per occurrence.

17. Laws and Regulations

HOLDER shall comply with all applicable Federal and State laws and regulations, existing or hereafter enacted or promulgated. If at any time a conflict should exist between the terms, conditions and stipulations of this GRANT and applicable regulations, the applicable regulations shall prevail.

18. No Right of Set Off

With respect to any sum now or hereafter owing, or claimed to be owing, to the United States and that arises out of or is connected in any way with the construction, OPERATION or termination of all or any part of the PIPELINE SYSTEM, HOLDER shall not set off against, or otherwise deduct from, any such sum:

A. Any claim or judgment for money of the HOLDER against the United States not arising out of the construction, OPERATION or termination of all or any part of the PIPELINE SYSTEM;

B. Any claim or judgment for money of the HOLDER against the United States that arises out of the construction, OPERATION or termination of all or any part of the PIPELINE SYSTEM, if the sum now or hereafter owing, or claimed to be owing, to the United States is or shall be for any sum or charge required to be paid to the United States pursuant to Section 8, Section 12 or Section 19 hereof; or

C. Any claim or judgment for money of the HOLDER against the United States that arises out of, or pursuant to, any statute administered by any department or agency of the United States other than the Department of the Interior.

19. Right of United States to Perform

If, after thirty (30) days, or in an emergency such shorter period as shall not be unreasonable, following the making of a demand therefor by the AUTHORIZED OFFICER, HOLDER (or its agents, employees, contractors, or subcontractors) shall fail or refuse to perform any of the actions required by the provisions of this GRANT, the STIPULATIONS or applicable regulations, the United States shall have the right, but not the obligation, to perform any or all of such actions at the sole expense of the HOLDER. Prior to the delivery of any such demand, the AUTHORIZED OFFICER shall confer with the HOLDER, unless the AUTHORIZED OFFICER deems it impracticable to do so, regarding the required action or actions that are included in the demand.

20. Liens

A. HOLDER shall, with reasonable diligence, discharge any lien against FEDERAL LANDS that results from any failure or refusal on HOLDER'S part to pay or satisfy any judgment or obligation that arises out of or is connected in any way with the construction, OPERATION or termination of all or any part of the PIPELINE SYSTEM.

B. However, HOLDER shall prevent the foreclosure of any lien against any title, right, or interest of the United States in said lands.

C. The foregoing provisions of this Section shall not be construed to constitute the consent of the United States to the creation of any lien against FEDERAL LANDS or to be in derogation of any prohibition or limitation with respect to such liens that may now or hereafter exist.

21. Duty of HOLDER to Abate

A. HOLDER promptly shall abate, either completely or, as the case may be, as completely as possible using their best efforts, any physical or mechanical procedure, activity, event or condition, existing or occurring at any time:

- (1) that is susceptible to abatement by HOLDER;
- (2) which arises out of, or could affect adversely, the construction, OPERATION or termination of all or any part of the PIPELINE SYSTEM, and
- (3) that causes or threatens to cause:
 - (a) a hazard to the safety of workers or to public health or safety (including but not limited to personal injury or loss of life with respect to any PERSON or PERSONS),
 - (b) SIGNIFICANT DAMAGE to the environment (including but not limited to areas of vegetation or timber, fish or other wildlife populations, or their habitats, or any other natural resource) or
 - (c) SIGNIFICANT DAMAGE to subsistence use.

B. HOLDER shall cause its respective agents, employees, contractors and subcontractors (at any tier) to observe and comply with the foregoing provisions of this Section.

22. Temporary Suspension Orders of AUTHORIZED OFFICER

The AUTHORIZED OFFICER may at any time, and in accordance with applicable laws and regulations, order the temporary suspension of any or all construction, OPERATION or termination activities of HOLDER, its agents, employees, contractors or subcontractors (at any tier) in connection with the PIPELINE SYSTEM, including but not limited to the transportation of GAS.

23. Appeal Procedure

All appeals from decisions of the AUTHORIZED OFFICER shall be in accordance with 43 CFR, 2884.1.

24. Civil Rights

The HOLDER agrees not to exclude any person from participating in employment or procurement activity connected with this GRANT on the grounds of race, creed, color, national origin, and sex, and to ensure against such exclusions, the HOLDER further agrees to develop and submit to the proper reviewing official specific goals and timetables with respect to minority and female participation in employment and procurement activity connected with this GRANT. The HOLDER will take affirmative action to utilize business enterprises owned and controlled by minorities or women in its procurement practices connected with this GRANT. Affirmative action will be taken by the HOLDER to assure all minorities or women applicants full consideration of all employment opportunities connected with this GRANT. The HOLDER also agrees to post in conspicuous places on its premises which are available to contractors, subcontractors, employees, and other interested individuals, notices which set forth equal opportunity terms; and to notify interested individuals, such as bidders, contractors, purchasers, and labor unions or representatives of workers with whom it has collective bargaining agreements, of the HOLDER'S equal opportunity obligations.

25. Native and Other Subsistence

To the extent practicable, HOLDER shall not damage any fish, wildlife or biotic resources in the general area of the RIGHT-OF-WAY upon which PERSONS living in the area rely for subsistence purposes; and HOLDER will comply promptly with all requirements and orders of the AUTHORIZED OFFICER to protect the interests of PERSONS living in the general area of the RIGHT-OF-WAY who rely on the fish, wildlife and biotic resources of the area for subsistence purposes.

26. Termination or Suspension of RIGHT-OF-WAY

A. The Authorized Officer may institute procedures for suspension or termination of HOLDER'S RIGHT-OF-WAY GRANT pursuant to 43 CFR 2883.6 if it is determined that:

- (1) The HOLDER, its agents, employees, contractors or subcontractors (at any tier), or any of them, has failed to comply with any applicable provision of Section 28 of the Mineral Leasing Act of 1920, as amended, applicable laws or regulations, or any term, condition or stipulation of this GRANT; or

- (2) The HOLDER has deliberately failed to use the RIGHT-OF-WAY for the purpose for which it was granted or renewed for a continuous two (2) year period.

B. Upon a final adverse finding, pursuant to Section 12 of the Alaska Natural Gas Transportation Act of 1976, 15 USC 719j that export of North Slope Alaska Natural Gas is not in the National interest, or upon final denial of an export license application, this GRANT shall automatically terminate in accordance with 43 CFR 2883.6.

27. Release of RIGHT-OF-WAY

A. In connection with the relinquishment, abandonment or other termination before the expiration of the GRANT of the RIGHT-OF-WAY, of any right or interest in the RIGHT-OF-WAY, and/or in the use of all or any part of the lands subject to the RIGHT-OF-WAY, HOLDER shall promptly execute and deliver to the AUTHORIZED OFFICER, a valid instrument of release. The form and substantive content of each instrument of release shall be approved by the AUTHORIZED OFFICER but, in no event shall any such instrument operate to increase the then-existing liabilities and obligations of the HOLDER furnishing the release.

B. Each release shall be accompanied by such resolutions and certifications as the AUTHORIZED OFFICER may require in connection with the power or the authority of the HOLDER, or of any officer or agent acting on its behalf, to execute, acknowledge or deliver the release.

C. Neither the tender, nor the approval and/or acceptance, of any such release shall operate as an estoppel or waiver of any claim or judgment against HOLDER or to relieve or discharge, in whole or in part, HOLDER of and from any of its then-existing liabilities or obligations (accrued, contingent or otherwise); and, notwithstanding any such tender or delivery, or any approval of the AUTHORIZED OFFICER, if a release shall contain any provision that operates or that by implication might operate to discharge or relieve HOLDER of and from any of its liabilities or obligations (accrued, contingent or otherwise) or that operates or might operate as an estoppel or waiver of any claim or judgment against HOLDER, or as a covenant not to sue, such provision shall be, and shall be deemed to be, void and of no effect whatsoever insofar as it would have the effect of so discharging or relieving HOLDER or operating as an estoppel, waiver or covenant not to sue.

28. Access to Documents

A. As to any documents or records not filed (or required to be filed under any other provision of this GRANT) with the SECRETARY or the AUTHORIZED OFFICER that shall be relevant to the exercise or enforcement of the AUTHORIZED OFFICER'S authority or the rights of the United States under or in connection with this GRANT or with respect to all or any part of the PIPELINE SYSTEM, the AUTHORIZED OFFICER shall have the right, after notice to HOLDER, to inspect and copy:

- (1) any document or record which HOLDER is required by this GRANT to make or maintain,
- (2) any document or record that at any time has been filed by HOLDER with any governmental department or agency, access to which is not prohibited or limited by law or regulation, or
- (3) any abstract, summary or other document that may have been prepared by any governmental department or agency in connection with any document or record referred to in (2) above.

B. Subject to the requirement that the documents or records herein below referred to shall be relevant to the exercise or enforcement of the AUTHORIZED OFFICER'S authority or the rights of the United States under or in connection with this GRANT or with respect to all or any part of the PIPELINE SYSTEM, the SECRETARY, after notice to HOLDER, may inspect and, with the consent of the HOLDER (which consent HOLDER agrees will not be unreasonably withheld or delayed), may copy any document or record that has been or may hereafter be filed by HOLDER with any governmental agency, access to which is prohibited or limited by law or regulation, and any abstract, summary or other document that may have been prepared by a governmental department or agency in connection with any such document or record; provided, however, that the rights of the AUTHORIZED OFFICER under this subsection may be exercised only if, and to the extent that, this provision constitutes a valid waiver of any such prohibition or limitation.

C. Nothing in this section shall be deemed to limit, prohibit, or waive any right or privilege of the United States, and particularly of the AUTHORIZED OFFICER, to inspect or copy any document or record under any authority granted pursuant to law or regulations.

29. Rights of Third Parties

The parties hereto do not intend to create any rights under this GRANT that may be enforced by third parties for their own benefit or for the benefit of others.

30. Covenants Independent

Each and every covenant contained in this GRANT is, and shall be deemed to be, separate and independent of, and not dependent on, any other covenant contained in this GRANT.

31. Partial Invalidity

If any part of this GRANT is held invalid or unenforceable, the remainder of this GRANT shall not be affected and shall be valid and enforced to the fullest extent permitted by law.

32. Waiver Not Continuing

The waiver by any party hereto for non-compliance of any provision of this GRANT by any other party hereto, whether such waiver be expressed or implied, shall not be construed to be a continuing waiver or a waiver of, or consent to, any subsequent or prior non-compliance on the part of such other party, of the same or any other provision of this GRANT.

33. Remedies Cumulative; Equitable Relief

No remedy conferred by this GRANT upon or reserved to the United States or to HOLDER is intended to be exclusive of any other remedy provided for by this GRANT or by law, but each shall be cumulative and shall be in addition to every other remedy given hereunder or now or hereafter existing in equity or at law; and the United States, in a proper action instituted by it, may seek a decree against HOLDER for specific performance, injunctive or other equitable relief, as may be appropriate.

34. Section Headings

The section headings in this GRANT are for convenience only, and do not purport to, and shall not be deemed to, define, limit or extend the scope or intent of the section to which they pertain.

35. Authority to Enter GRANT

HOLDER represents and warrants to the United States that:

A. it is duly authorized and empowered under the applicable laws of the State of its incorporation and by its charter and by-laws to enter into and perform this GRANT in accordance with the provisions hereof;

B. its board of directors, or duly authorized executive committee, has duly approved, and has duly authorized, the execution, delivery and performance by it of this GRANT;

C. all corporate and shareholder action that may be necessary or incidental to the approval of this GRANT, and the due execution, delivery and performance hereof by HOLDER, has been taken; and

D. that all of the foregoing approvals, authorizations and actions are in full force and effect at the time of the execution and delivery of this GRANT.

36. Acceptance of GRANT

HOLDERS execution of this GRANT signifies acceptance of the terms and conditions contained herein. Such acceptance constitutes an agreement between the HOLDER and the United States that, in consideration of the right to use FEDERAL LANDS, HOLDERS will comply with all terms and conditions contained in this GRANT and applicable laws and regulations.

IN WITNESS WHEREOF:

the parties hereto have duly executed this GRANT.

UNITED STATES OF AMERICA

Michael J. Penfold
By Michael J. Penfold
AUTHORIZED OFFICER
Alaska State Director
Bureau of Land Management

Date 10-17-88

YUKON PACIFIC CORPORATION

Howard D. Griffith
By Howard D. Griffith
PRESIDENT
Chief Executive Officer

Date 10-17-88

ATTEST:

Jeffery B. Lowenfels
By Jeffery B. Lowenfels
Secretary
General Counsel

(SEAL)

EXHIBIT B
STIPULATIONS FOR THE GRANT OF RIGHT-OF-WAY
FOR THE TRANS-ALASKA GAS SYSTEM

Table of Contents

	Preamble
1.	General
1.1.	Definitions
1.2.	Responsibilities
1.3.	AUTHORIZED OFFICER
1.4.	Agent of HOLDER
1.5.	Authority of Representatives of AUTHORIZED OFFICER and Agent; Orders of AUTHORIZED OFFICER
1.6.	Orders and Notices
1.7.	DESIGN CRITERIA, Plans and Programs
1.8.	Network Analysis Diagrams
1.9.	NOTICE TO PROCEED
1.10.	Application for NOTICE TO PROCEED
1.11.	Changes in Conditions
1.12.	Cultural Resources
1.13.	Completion of Use
1.14.	Public and Private Improvements
1.15.	Regulation of Public Access
1.16.	Electronically Operated Devices
1.17.	Hunting, Fishing and Trapping
1.18.	Small Craft Passage
1.19.	Protection of Survey Monuments
1.20.	Fire Prevention and Suppression
1.21.	Surveillance and Maintenance
1.22.	Quarters, Transportation and Communications
1.23.	Health and Safety
1.24.	Conduct of OPERATIONS
1.25.	Applicability of Stipulations
2.	ENVIRONMENTAL
2.1.	Environmental Briefings
2.2.	Pollution Control
2.2.1.	General
2.2.2.	Air and Water Pollution
2.2.3.	Pesticides, Herbicides and Other Chemicals
2.2.4.	WASTE Disposal
2.3.	Buffer Strips
2.3.1.	Public Interest Areas
2.3.2.	Vegetative Screen
2.4.	Erosion and Sedimentation Control
2.4.1.	General
2.4.2.	Crossing of Wetlands, Streams, Rivers or Floodplains
2.4.3.	Excavated Material

- 2.5. Fish and Wildlife Protection
- 2.5.1. Fish
- 2.5.2. Big Game Movements
- 2.5.3. Zones of Restricted Activity
- 2.6. Mineral Material Sites
- 2.7. Clearing
- 2.7.1. Boundaries
- 2.7.2. Timber
- 2.8. Disturbance or Use of Natural Water
- 2.9. Off RIGHT-OF-WAY Traffic
- 2.10. Visual Resources
- 2.11. Use of Explosives
- 2.12. RESTORATION
- 2.13. Reporting, Prevention, Control, Cleanup and Disposal
of OIL and HAZARDOUS SUBSTANCES Discharges
- 2.14. PIPELINE Contingency Plan
- 3. TECHNICAL
- 3.1. PIPELINE SYSTEMS Standards
- 3.2. Special Standards
- 3.3. Standards for ACCESS ROADS
- 3.4. CONSTRUCTION MODE Requirements
- 3.5. Earthquakes and Fault Displacements
- 3.5.1. Earthquakes
- 3.5.2. Fault Displacements
- 3.6. Slope Stability
- 3.7. WETLANDS, River, Stream and Floodplain Crossings
and Erosion
- 3.7.1. General
- 3.7.2. Culverts and Bridges
- 3.7.3. Erosion
- 3.8. Construction and OPERATION
- 3.9. Containment of Spills of OIL and Other HAZARDOUS
SUBSTANCES

PREAMBLE

Principles:

In the implementation of the GRANT of RIGHT-OF-WAY for the TRANS-ALASKA GAS SYSTEM of which these STIPULATIONS are a part, the following principles shall apply:

- (1) In the construction, OPERATION (including but not limited to a continuing and reasonable program of preventive maintenance) and termination of the PIPELINE SYSTEM, the HOLDER shall employ all practicable means and measures to preserve and protect the environment, as provided in this GRANT of RIGHT-OF-WAY.
- (2) The HOLDER and the United States shall balance environmental amenities and values with economic practicalities and technical capabilities, so as to be consistent with applicable national policies. In so doing, they shall take into account, among other considerations, the following:
 - (a) The benefit or detriment to persons, property, and the environment that may be anticipated to result from a proposed course of conduct;
 - (b) The particular environmental and technical benefits, costs or detriments reasonably expected to flow from a proposed course of conduct.
- (3) The HOLDER shall plan, manage, supervise, and implement the construction, OPERATION and termination of the PIPELINE SYSTEM in accordance with sound engineering practices.

Scope:

The Following STIPULATIONS set forth the standards of performance to be observed and maintained during the construction, OPERATION and termination of the PIPELINE SYSTEM.

These STIPULATIONS are not intended in any way to derogate from, or be construed as being inconsistent with, applicable provisions of law.

Nothing in these STIPULATIONS shall be construed as applying to activities of the HOLDER that have no relation to the PIPELINE SYSTEM.

1. GENERAL

1.1. Definitions

1.1.1. As used in these STIPULATIONS and elsewhere in this "RIGHT-OF-WAY GRANT for the TRANS-ALASKA GAS SYSTEM", the following terms have the following meanings:

1.1.1.1. "ACCESS ROADS" means roads on FEDERAL LANDS, other than State or public highways, that are constructed or used by HOLDER in connection with the construction, OPERATION or termination of the PIPELINE SYSTEM.

1.1.1.2. "ACT" means Section 28 of the Mineral Leasing Act of 1920, as amended, 30 U.S.C. 185 [Source - 43 CFR Subpart 2880.0-5(a)].

1.1.1.3. "ALASKA NATURAL GAS TRANSPORTATION SYSTEM" means the pipeline system referred to in and authorized by the Alaska Natural Gas Transportation Act of 1976, 15 U.S.C. 719, et seq, and the Grant of Right-of-Way for the Alaska Natural Gas Transportation System (F-24538).

1.1.1.4. "AUTHORIZED OFFICER" means any employee of the DEPARTMENT to whom has been delegated the authority to perform the duties described in this GRANT [Source - 43 CFR Subpart 2880.0-5(d)].

1.1.1.5. "BUSINESS ENTITY" means an artificial legal entity, formed to conduct one or more ventures for profit, or not for profit, that is duly authorized and empowered to sue and be sued, and to hold the title to property, in its own name.

1.1.1.6. "CONSTRUCTION MODE" means the type of construction to be employed generally with regard to the PIPELINE and with respect to specific engineering, geotechnical and environmental parameters and operational concepts.

1.1.1.7. "CONSTRUCTION SEGMENT" means a physical portion of the PIPELINE SYSTEM, as agreed upon by HOLDER and the AUTHORIZED OFFICER, that constitutes a complete portion or stage, in and of itself, which can be constructed independently of any other portion or stage of the PIPELINE SYSTEM in a designated geographical area.

1.1.1.8. "DEPARTMENT" means the Department of the Interior.

1.1.1.9. "DESIGN CRITERIA" means project criteria, i.e., construction, including design, and operational concepts necessary to delineate the project to be constructed. As a minimum, it includes the following: criteria to be used for the FINAL DESIGN and project concepts, evaluation of data used to establish the DESIGN CRITERIA, drawings showing functional and technical

requirements, reports of all test data compiled during the data collection and DESIGN CRITERIA evaluation, standard drawings (if applicable) or drawings to support structural design concepts of each typical facility or structure, proposed CONSTRUCTION MODES, outline of project specifications, sample computations to support the design, and concepts and bases for project siting.

1.1.1.10. "FEDERAL LANDS" means all lands owned by the United States except lands in the National Park System, lands held in trust for an Indian or Indian tribe and lands on the Outer Continental Shelf [Source - 43 CFR Subpart 2880.0-5(e)].

1.1.1.11. "FIELD TURN-ON" means an appropriate written authorization issued by the AUTHORIZED OFFICER, or his designee in the field to allow initiation of any activity on FEDERAL LAND in conjunction with the construction, OPERATION and termination of the PIPELINE SYSTEM.

1.1.1.12. "FINAL DESIGN" means completed design documents suitable for bid solicitation including:

- A. contract plans and specifications,
- B. proposed CONSTRUCTION MODES,
- C. operational requirements necessary to justify designs,
- D. design analysis,
- E. including calculations for each particular design feature,
- F. all functional and engineering criteria,
- G. summaries of engineering tests conducted and their results, and
- H. other considerations pertinent to design.

1.1.1.13. "FISH OVERWINTERING AREAS" means those areas inhabited by fish between freezeup and breakup.

1.1.1.14. "FISH SPAWNING AREAS" means those areas where anadromous and resident fish deposit their eggs.

1.1.1.15. "FISH REARING AREAS" means those areas inhabited by fish during any life stage.

1.1.1.16. "GAS" means a gaseous mixture, principally of methane and other paraffinic hydrocarbons, suitably conditioned to an acceptable specification of the HOLDER and appropriate regulatory agencies for transportation by the PIPELINE.

- 1.1.1.17. "GRANT" as used in this document refers to this "RIGHT-OF-WAY GRANT for the TRANS-ALASKA GAS SYSTEM" and means a document authorizing a nonpossessory, nonexclusive right to use FEDERAL LANDS for the limited purpose of construction, OPERATION and termination of the PIPELINE [Source - 43 CFR Subpart 2880.0-5(n)].
- 1.1.1.18. "HAZARDOUS SUBSTANCES" is used as defined by the State of Alaska Department of Environmental Conservation, Environmental Protection Agency, the Department of Transportation or as specified in writing by the AUTHORIZED OFFICER in consultation with these Departments or agencies during the review of the HOLDER'S OIL and HAZARDOUS SUBSTANCES control, cleanup and disposal plan.
- 1.1.1.19. "HOLDER" means the Yukon Pacific Corporation or its respective successors or assigns.
- 1.1.1.20. "MAPPING SEGMENT" means a CONSTRUCTION SEGMENT or any part thereof, as determined by the AUTHORIZED OFFICER, provided, however, that with respect to a compressor station, basic communication site, remote control valve site, mechanical refrigeration equipment site and any other like RELATED FACILITY, a MAPPING SEGMENT means the entire site.
- 1.1.1.21. "NOTICE TO PROCEED" means a written permission to initiate field activities in accordance with STIPULATION 1.9.
- 1.1.1.22. "OIL" means oil of any kind or any form, including but not limited to.. petroleum, fuel oil, sludge, oil refuse and oil mixed with WASTE other than dredged spoil (Source - Clean Water Act as amended).
- 1.1.1.23. "OPERATION" means all activities related to the act of transporting GAS, including maintenance and repair of the PIPELINE SYSTEM and the fulfillment of all obligations under this GRANT of RIGHT-OF-WAY.
- 1.1.1.24. "PERSON" means a natural person.
- 1.1.1.25. "PERSONS" means more than one PERSON.
- 1.1.1.26. "PIPELINE" means all parts of those physical facilities, authorized on Federal lands by the U.S. Department of the Interior RIGHT-OF-WAY GRANT Nos. AA-53559 and F-83941, through which the GAS moves. This term includes RELATED FACILITIES.
- 1.1.1.27. "PRECONSTRUCTION" means all activities associated with planning and designing the PIPELINE SYSTEM.

1.1.1.28. "PIPELINE SYSTEM" means all facilities on FEDERAL LANDS which are constructed or used by the HOLDER in connection with the construction, OPERATION or termination of the PIPELINE. The term includes the PIPELINE and RELATED FACILITIES, temporary facilities, temporary use areas and material sites used by the HOLDER for the construction, OPERATION or termination of the PIPELINE. It does not include facilities, such as urban administrative offices, which are only indirectly involved in the transportation of GAS; nor does it include facilities used by others in the production, gathering or conditioning of GAS.

1.1.1.29. "RELATED FACILITIES" means those structures, devices, improvements, and sites on FEDERAL LANDS other than the pipe, the substantially continuous use of which is necessary for the OPERATION of the PIPELINE. RELATED FACILITIES includes supporting structures, air fields, ACCESS ROADS, compressor stations, valves and other control devices, bridges, culverts and low-water crossings, monitoring and communication devices, retaining walls, berms, dikes, ditches, cuts and fills, including hydraulic and erosion control structures, structures and areas for storing supplies and equipment, cathodic protection devices, and other facilities of a similar nature together with related yards, fences, and buildings as the AUTHORIZED OFFICER, after consultation with the HOLDER, shall determine to be RELATED FACILITIES.

"RELATED FACILITIES" not authorized by this GRANT include ACCESS ROADS, communication sites and airstrips. Authorizations for such RELATED FACILITIES shall be given by other instruments.

"RELATED FACILITIES" does not mean those structures, devices, improvements, sites, facilities or areas, the use of which is temporary in nature such as those used only for construction purposes. Among such are: temporary camps, temporary landing strips, temporary bridges, temporary ACCESS ROADS, temporary communication sites, temporary storage sites, and temporary disposal sites.

1.1.1.30. "RESTORE/RESTORATION" means to return a disturbed area to a natural or near natural condition, unless otherwise approved by the AUTHORIZED OFFICER. Restoration includes, where appropriate, erosion and sediment controls, stream rehabilitation, REVEGETATION, reestablishment of native species, visual amelioration and stabilization.

1.1.1.31. "REVEGETATION" means the establishment of plant cover on disturbed lands through techniques including, but not limited to, seedbed preparation, seeding, planting, fertilizing, mulching, and watering.

1.1.1.32. "RIGHT-OF-WAY" means the FEDERAL LANDS authorized to be occupied pursuant to this GRANT.

1.1.1.33. "SECRETARY" means the Secretary of the Interior.

1.1.1.34. "SIGNIFICANT DAMAGE" means a measurable and persistent adverse change, not attributable to natural fluctuation in the environment or in the size, productivity, or distribution of a fish, bird or mammal population, or in an area's carrying capacity for such a population, or in the availability of such a population for human use.

1.1.1.35. "STANDARD PROJECT FLOOD" is defined in U.S. Army Corps of Engineers Bulletin 52-8, Part 1.

1.1.1.36. "STIPULATION or STIPULATIONS" means RIGHT-OF-WAY GRANT STIPULATIONS for the TRANS-ALASKA GAS SYSTEM (Exhibit B).

1.1.1.37. "TRANS-ALASKA PIPELINE SYSTEM" means the pipeline system referred to in and authorized by the Trans-Alaska Pipeline Authorization Act, Title II, P.L. 93-153, 87 Stat. 584, and the Agreement and Grant of Right-of-Way for the TRANS-ALASKA PIPELINE SYSTEM (F-12505 and AA-5847).

1.1.1.38. "WASTE" means all discarded matter, other than construction spoil. It includes but is not limited to, human waste, trash, garbage, refuse, OIL drums, petroleum products, ashes and equipment.

1.1.1.39. "WETLANDS" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. WETLANDS generally include swamps, marshes, bogs, and similar areas.

1.2. Responsibilities

1.2.1. Except where AUTHORIZED OFFICER approval is required before HOLDER may commence a particular operation, neither the United States nor any of its agents or employees agrees, or is in any way obligated, to examine or review any plan, design, specification or other document which may be filed with the AUTHORIZED OFFICER by HOLDER pursuant to these STIPULATIONS.

1.2.2. With regard to the construction, OPERATION or termination of the PIPELINE SYSTEM:

A. HOLDER shall ensure full compliance with the provisions of this GRANT, including these STIPULATIONS, by HOLDER'S employees, agents, contractors, subcontractors of any tier and the employees of each of them;

B. unless clearly inapplicable, the requirements and prohibitions imposed upon HOLDER by these STIPULATIONS are also imposed upon HOLDER'S agents, employees, contractors and subcontractors and the employees of each of them;

C. failure or refusal of HOLDER'S agents, employees, contractors or subcontractors and the employees of each of them, to comply with these STIPULATIONS shall be deemed to be the failure or refusal of the HOLDER;

D. HOLDER shall require its agents, contractors and subcontractors to include these STIPULATIONS in all contracts and subcontracts which are entered into by any of them, together with a provision that the other contracting party, together with its agents, employees, contractors and subcontractors, and the employees of each of them, shall likewise be bound to comply with these STIPULATIONS;

E. HOLDER shall demonstrate that the requirements in STIPULATIONS 1.2.2. A through D above have been accomplished at least quarterly unless otherwise approved by the AUTHORIZED OFFICER.

1.2.3. In the implementation of STIPULATION 1.2.2., the HOLDER will furnish all supervisory-level employees with copies of these STIPULATIONS and will explain the limitations imposed by these STIPULATIONS.

1.2.4. HOLDER shall make separate application to the AUTHORIZED OFFICER, under applicable statutes and regulations, for authorization to use or occupy FEDERAL LANDS in connection with the PIPELINE SYSTEM where the lands are not within the RIGHT-OF-WAY granted.

1.2.5. HOLDER shall not interfere with operations of the TRANS-ALASKA PIPELINE SYSTEM or any other authorizations as such system or authorization encumbers FEDERAL LANDS pursuant to right-of-way grants, permits or other authorizations of the United States, or with the activities of employees, contractors, subcontractors and agents of the TRANS-ALASKA PIPELINE SYSTEM or any other authorized entity, except as may be approved in writing by the AUTHORIZED OFFICER.

1.2.6. HOLDER shall not interfere with PRE-CONSTRUCTION, construction and OPERATIONS of the ALASKA NATURAL GAS TRANSPORTATION SYSTEM as such system encumbers FEDERAL LANDS pursuant to right-of-way grants, permits or other authorizations of the United States, or with the activities of employees, contractors, subcontractors and agents of the ALASKA NATURAL GAS TRANSPORTATION SYSTEM except as may be approved in writing by the AUTHORIZED OFFICER.

1.3. AUTHORIZED OFFICER

1.3.1. For purposes of information and review, the AUTHORIZED OFFICER may call upon HOLDER at any time to furnish any or all data related to design, construction, OPERATION or termination activities undertaken in connection with the PIPELINE SYSTEM.

1.3.2. The absence of any comment by the AUTHORIZED OFFICER or his designated representative on any plan, design, specification, or other document which may be filed by the HOLDER with the AUTHORIZED OFFICER shall not be deemed to represent in any way whatever any assent to, approval of, or concurrence in such plan, design, specification or other document, or any action proposed therein. Any written approval or instruction by the AUTHORIZED OFFICER may be relied upon by the HOLDER unless and until rescinded in writing. The AUTHORIZED OFFICER, shall act in writing upon each submission to him in accordance with the agreed-upon schedule developed pursuant to STIPULATIONS 1.7.2. and 1.9.4. Any disapproving action by the AUTHORIZED OFFICER including any requests for additional information, shall state what additional action is necessary to gain approval.

1.3.3. The AUTHORIZED OFFICER may require HOLDER to make such modification of the PIPELINE SYSTEM during PRE-CONSTRUCTION, construction, OPERATION and termination without liability or expense to the United States, as deemed necessary to:

- A. protect or maintain stability of foundation and geologic materials;
- B. protect or maintain integrity of the PIPELINE SYSTEM;
- C. prevent SIGNIFICANT DAMAGE to the environment (including but not limited to fish and wildlife populations or their habitats);
- D. protect or maintain subsistence uses;
- E. remove hazards to public health and safety;
- F. protect the TRANS-ALASKA PIPELINE SYSTEM and the ALASKA NATURAL GAS TRANSPORTATION SYSTEM from any adverse effects of HOLDER'S activities, including the activities of HOLDER'S agents, employees, contractors, subcontractors and the employees of each of them.

1.4. Agent of HOLDER

1.4.1. If HOLDER appoints an agent to design, construct, operate, maintain and terminate the PIPELINE SYSTEM under and pursuant to this GRANT, HOLDER shall file a Power of Attorney with the Department of the Interior appointing such agent as their true and lawful agent and attorney-in-fact on behalf of HOLDER with full

power and authority to execute and deliver any and all instruments in connection with the design, construction, OPERATION and termination of the PIPELINE SYSTEM. Within the scope of such contractual authority, such agent shall represent HOLDER with respect to this GRANT. Such agent shall be empowered on behalf of HOLDER to accept service of any process, pleadings or other documents in connection with court or administrative proceedings relating in whole or in part to this GRANT or to all or any part of the PIPELINE SYSTEM and to which the United States shall be a party.

1.4.2. If HOLDER maintains an agent for the design, construction, OPERATION and termination of the PIPELINE SYSTEM such agent shall be a citizen of the United States or if a corporation, a domestic corporation. Such agent shall be a resident of Alaska or if a corporation, shall be duly authorized to conduct business in Alaska. HOLDER shall cause such agent to maintain at all times during this GRANT, an office in the State of Alaska for the delivery of all documents, orders, notices and other written communications as provided for in STIPULATIONS 1.5. and 1.6.

1.4.3. If HOLDER substitutes a new agent at any time, HOLDER shall give prompt written notice to the AUTHORIZED OFFICER of such substitution and provide the name and office address in the State of Alaska of the new agent and a copy of HOLDER'S agreement with the new agent. The United States shall be entitled to rely on each appointment until such time as a notice of substitution of a new agent takes effect. Each such notice of substitution shall not take effect until at least two (2) full working days after (and not including) the date that it was received by the AUTHORIZED OFFICER.

1.5. Authority of Representatives of AUTHORIZED OFFICER and Agent; Orders of AUTHORIZED OFFICER

1.5.1. No order or notice given to HOLDER on behalf of the SECRETARY by the AUTHORIZED OFFICER or any other PERSON shall be effective as to HOLDER unless prior written notice of the delegation of authority to issue such order or notice has been given to HOLDER in the manner provided in STIPULATION 1.6.

1.5.2. HOLDER shall comply with each and every lawful order directed to them and that is issued by the SECRETARY, the AUTHORIZED OFFICER or by a duly authorized representative of the AUTHORIZED OFFICER.

1.5.3. HOLDER or its agent if so appointed shall maintain a sufficient number of its duly authorized representatives to allow for the prompt delivery to HOLDER of all notices, orders and other communications, written or oral, of the SECRETARY or AUTHORIZED OFFICER. Each of the agent's duly authorized representatives shall be registered with the AUTHORIZED OFFICER and shall be

appropriately identified in such a manner and on such terms as the AUTHORIZED OFFICER shall prescribe. HOLDER shall cause its agent to consult with the AUTHORIZED OFFICER at any time regarding the number and location of such representatives of the agent.

1.6. Orders and Notices

1.6.1. All decisions, determinations, authorizations, approvals, consents, demands or directions that shall be made or given by the SECRETARY or the AUTHORIZED OFFICER to the HOLDER in connection with the enforcement or administration of the GRANT, any applicable law, regulation or any other grant, permit or authorization relating in whole or in part to all or any part of the PIPELINE SYSTEM shall, except as otherwise provided in STIPULATION 1.6.2., be in the form of a written order or notice.

1.6.2. If, in the judgment of the SECRETARY or the AUTHORIZED OFFICER, there is an emergency that necessitates the immediate issuance to the HOLDER of an order or notice, such order or notice may be given orally, provided, however, that subsequent confirmation of the order or notice shall be given in writing as rapidly as is practicable under the circumstances.

1.6.3. All written orders, notices, telegrams or other written communications that are addressed to the HOLDER shall be deemed to have been delivered to and received by the addressee when the order, notice, telegram or other written communication has been delivered:

A. either by messenger during normal business hours or by means of registered or certified United States mail, postage prepaid, return receipt requested, to the office of the HOLDER or the agent of the HOLDER in the State of Alaska, or

B. personally to any authorized representative of the HOLDER or its agent.

1.6.4. All written notices, telegrams or other written communications relating to any subject from the HOLDER that are addressed to the AUTHORIZED OFFICER shall be deemed to have been delivered to and received by the AUTHORIZED OFFICER when the notice, telegram or other written communication has been delivered either by messenger during normal business hours or by means of a registered or certified United States mail, postage prepaid, return receipt requested, to the AUTHORIZED OFFICER personally or to the Office of the Alaska State Director, U.S. Bureau of Land Management, 701 C Street, Box 30, Anchorage, Alaska 99513.

1.6.5. The United States or HOLDER may, by written notice to the other, change the office addresses to which written notices, orders, telegrams or other written communications may be addressed and delivered thereafter.

1.7. DESIGN CRITERIA: Plans and Programs

1.7.1. In order to streamline final design review, HOLDER shall submit DESIGN CRITERIA to the AUTHORIZED OFFICER. The DESIGN CRITERIA, including the plans and programs specified in STIPULATION 1.7.2., shall be approved prior to initiation of FINAL DESIGN by the AUTHORIZED OFFICER and shall be complied with by the HOLDER.

1.7.2. HOLDER shall also submit comprehensive plans and/or programs (including schedules where appropriate) which shall include but not be limited to the following:

- A. Air quality
- B. ACCESS ROADS
- C. Blasting
- D. Camps
- E. Clearing
- F. Corrosion control
- G. Cultural resource preservation
- H. Environmental briefings
- I. Erosion and sedimentation control
- J. Fire control
- K. Geologic hazards
- L. Human-carnivore interaction
- M. Liquid waste management
- N. Mineral Material exploration and extraction
- O. OIL and HAZARDOUS SUBSTANCES control, cleanup and disposal
- P. Overburden and excess material disposal
- Q. Pesticides, herbicides, chemicals
- R. PIPELINE contingency
- S. Quality assurance/quality control
- T. Restoration
- U. River training structures
- V. Siting of compressor stations
- W. Snow and ice workpads and snow and ice ACCESS ROADS
- X. Solid WASTE management
- Y. Stream, river and floodplain crossings
- Z. Surveillance and maintenance
- AA. Visual resources
- BB. WETLAND construction

These plans and programs may be combined as appropriate. HOLDER and the AUTHORIZED OFFICER shall agree to the scope, content and schedule for submission of the requested plans and programs. Any aspects of these plans and programs or the DESIGN CRITERIA that are likely to have a significant impact upon other facilities (such as the TRANS-ALASKA PIPELINE SYSTEM and the ALASKA NATURAL GAS TRANSPORTATION SYSTEM) shall be coordinated by the HOLDER with the owners of such other facilities during their development. The HOLDER, in particular, shall coordinate with the State of Alaska

regarding the PIPELINE SYSTEM alignment between Prudhoe Bay and Valdez. Coordination means providing the other facility owner an opportunity to review and comment upon relevant parts of the plans and programs. The HOLDER shall reasonably take these comments into consideration. Coordination does not necessarily mean concurrence. Evidence of such coordination must be provided in support of any application for a NOTICE TO PROCEED. In determining the acceptability of the DESIGN CRITERIA and the plans, the AUTHORIZED OFFICER shall consider suggestions or objections submitted by owners of affected facilities.

1.7.3. Additional or supplementary plans may be required in the event that the Plans submitted in accordance with STIPULATION 1.8.2. do not provide the detailed and/or site-specific data required to support the FINAL DESIGN required in STIPULATION 1.11., or to guide the conduct of the construction, OPERATION and termination of the PIPELINE SYSTEM.

1.8. Summary Network Analysis Diagrams

1.8.1. As part of the DESIGN CRITERIA, the HOLDER shall submit a summary network analysis diagram for the project to the AUTHORIZED OFFICER for review and approval. The summary network analysis diagram shall include all environmental, engineering and construction-related activities and contingencies which reasonably may be anticipated in connection with the project.

The summary network analysis diagram shall include or address:

- A. data collection activities;
- B. submittal and approval activities;
- C. construction and post construction activities;
- D. schedule control techniques;
- E. submittal of NOTICE TO PROCEED applications;
- F. environmental constraints on construction scheduling; and
- G. other pertinent data.

The summary network analysis diagram shall be prepared employing techniques normal to the industry in sufficient detail and scope to permit the AUTHORIZED OFFICER to determine if the management approach shown or inferred by the network analysis will facilitate the cost-effective, environmentally sound, and timely construction of the project consistent with the protection of public health and safety.

1.8.2. The summary network analysis diagram shall be updated to indicate current and planned activities at intervals mutually agreeable to the HOLDER and the AUTHORIZED OFFICER.

1.9. NOTICE TO PROCEED

1.9.1. The HOLDER shall not initiate any activity on FEDERAL LANDS pursuant to the authorization of which these STIPULATIONS are a part without prior specific written permission. Such permission shall be given either by a NOTICE TO PROCEED or other appropriate written authorization, issued by the AUTHORIZED OFFICER, as appropriate. Any NOTICE TO PROCEED or other authorization shall permit activities only as therein expressly stated and only for the particular activities therein described. A NOTICE TO PROCEED or other appropriate authorization may contain such site-specific terms and conditions as the AUTHORIZED OFFICER deems necessary to implement these STIPULATIONS, and the HOLDER shall comply with such terms and conditions. All NOTICES TO PROCEED will contain a provision requiring a FIELD TURN-ON prior to initiation of activities.

1.9.2. The AUTHORIZED OFFICER shall issue a NOTICE TO PROCEED only when, in his judgment, applicable FINAL DESIGNS and other submissions required by STIPULATIONS 1.7.2., 1.7.3. and 1.10.4. conform to these STIPULATIONS.

1.9.3. By written order, following appropriate consultation with the HOLDER, and when other enforcement actions are inadequate or have not been successful, the AUTHORIZED OFFICER may revoke or suspend in whole or in part any NOTICE TO PROCEED which has been issued when, in his judgment, unforeseen conditions later arising require alterations in the NOTICE TO PROCEED in order to:

- A. protect or maintain stability of foundation and earth materials;
- B. protect or maintain integrity of the PIPELINE SYSTEM;
- C. control or prevent SIGNIFICANT DAMAGE to the environment, including but not limited to fish and wildlife populations and their habitats; or
- D. remove hazards to public health and safety.

The AUTHORIZED OFFICER shall expeditiously follow his revocation or suspension order with a more detailed written statement of the reason for the action.

1.9.4. Prior to submission of any applications for NOTICES TO PROCEED, the HOLDER and the AUTHORIZED OFFICER shall agree to a schedule for the submission, review and approval of such applications and on the scope of information to be contained therein. The schedule shall allow the AUTHORIZED OFFICER 60 days for review of each complete application for a NOTICE TO PROCEED

unless the AUTHORIZED OFFICER gives written notice that more time is needed. The schedule may be revised by mutual agreement, if necessary.

1.9.5. The AUTHORIZED OFFICER shall review each application for a NOTICE TO PROCEED and all data submitted in connection therewith in accordance with schedules as agreed upon pursuant to STIPULATION 1.9.4.

1.10. Application for NOTICE TO PROCEED

1.10.1. Before applying for any NOTICE TO PROCEED for field activities, HOLDER shall, unless otherwise authorized, by survey, locate and clearly mark on the ground the proposed centerline of the PIPELINE and the location of all other RELATED FACILITIES in the proposed work area in a manner acceptable to the AUTHORIZED OFFICER.

1.10.2. When the HOLDER is engaged in field activities proximate to the TRANS-ALASKA PIPELINE SYSTEM or, in any event, when any HOLDER field activities could pose a threat to the integrity of the TRANS-ALASKA PIPELINE SYSTEM, the HOLDER shall arrange with the owners of the TRANS-ALASKA PIPELINE SYSTEM, in accordance with industry practice, for the agent for the TRANS-ALASKA PIPELINE SYSTEM to survey and clearly mark on the ground the relevant threatened parts of the TRANS-ALASKA PIPELINE SYSTEM to the satisfaction of the AUTHORIZED OFFICER.

1.10.3. When Holder is engaged in field activities proximate to the ALASKA NATURAL GAS TRANSPORTATION SYSTEM or, in any event, when any HOLDER field activities could pose a threat to the integrity of the ALASKA NATURAL GAS TRANSPORTATION SYSTEM, the HOLDER shall arrange with the owners of the ALASKA NATURAL GAS TRANSPORTATION SYSTEM, in accordance with industry practice, to survey and clearly mark on the ground the relevant threatened parts of the ALASKA NATURAL GAS TRANSPORTATION SYSTEM to the satisfaction of the AUTHORIZED OFFICER. Provided, that until such time as NOTICES TO PROCEED have been issued for the construction of the ALASKA NATURAL GAS TRANSPORTATION SYSTEM between Prudhoe Bay and Delta Junction in Alaska, HOLDER will be required only to protect the existing rights of the owners of the ALASKA NATURAL GAS TRANSPORTATION SYSTEM on FEDERAL LANDS. HOLDER will notify the owners of the ALASKA NATURAL GAS TRANSPORTATION SYSTEM of its intent to obtain NOTICES TO PROCEED for its project. Said owners will have opportunity to review and comment on applications for NOTICE TO PROCEED when such applications are within 200 feet of the ALASKA NATURAL GAS TRANSPORTATION SYSTEM on FEDERAL LANDS and do not contain proprietary or confidential information.

1.10.4. Each application for an NOTICE TO PROCEED shall include, but is not limited to:

A. a FINAL DESIGN;

B. all reports and results of environmental analysis including subsistence issues, conducted or considered by HOLDER;

C. all data necessary to demonstrate compliance with the terms and conditions of this GRANT with respect to the proposed activity including permits or authorizations required by appropriate Federal and State agencies,

D. a detailed network analysis diagram including the following for the proposed activity: work schedules; permits or authorizations required and their interrelationships; design and review periods; data collection activities and construction sequencing. This detailed network analysis diagram shall be updated as required to reflect current status of the activity;

E. a map or maps, acceptable to the AUTHORIZED OFFICER, depicting the specific location of all existing improvements, buried or aboveground in the proposed area to be affected and depicting the proposed locations of:

- (1) the boundaries of all associated temporary use areas;
- (2) all improvements, buried or aboveground, proposed for construction; and
- (3) the relative location of any part of the TRANS-ALASKA PIPELINE SYSTEM and the ALASKA NATURAL GAS TRANSPORTATION SYSTEM that is proximate to the proposed improvements.

1.10.5. A NOTICE TO PROCEED shall not be issued until the AUTHORIZED OFFICER has approved all relevant locations on the ground and temporary boundary markers have been set by HOLDER to the satisfaction of the AUTHORIZED OFFICER:

A. a separate analysis which addresses and evaluates the effects of the PIPELINE SYSTEM and proposed activity on the TRANS-ALASKA PIPELINE SYSTEM and the ALASKA NATURAL GAS TRANSPORTATION SYSTEM;

B. an analysis which describes systems designed to ensure protection of the TRANS-ALASKA PIPELINE SYSTEM, the ALASKA NATURAL GAS TRANSPORTATION SYSTEM and other existing facilities from damage arising from the construction, OPERATION and termination of the PIPELINE SYSTEM;

C. evidence that the HOLDER has coordinated with the owners, agents and/or operators of the TRANS-ALASKA PIPELINE SYSTEM, the ALASKA NATURAL GAS TRANSPORTATION SYSTEM or any other existing or proposed facilities as may be required by the AUTHORIZED OFFICER;

D. the specific quality control program for all activities included in the application for NOTICE TO PROCEED including what special precautions HOLDER will execute when operating in proximity to existing facilities of the TRANS-ALASKA PIPELINE SYSTEM and the ALASKA NATURAL GAS TRANSPORTATION SYSTEM; and

E. such other data as may be requested by the AUTHORIZED OFFICER either prior to submission of the application for an NOTICE TO PROCEED or at any time during the review period.

1.10.6. During review of an application for a NOTICE TO PROCEED, the relevant portion of the route of the PIPELINE may be modified by the AUTHORIZED OFFICER, if, in his judgment environmental conditions or new technological developments warrant the modifications. During construction if adverse physical or environmental conditions are encountered that were not known to exist, or that were known to exist but their significance was not fully appreciated when the AUTHORIZED OFFICER issued a NOTICE TO PROCEED, the AUTHORIZED OFFICER may authorize deviations from the initially approved location of the PIPELINE to another location along the same general route of the PIPELINE at the point or points where the conditions are encountered, including adequate room for structurally sound transitions. HOLDER shall not make a deviation without the prior written approval of the AUTHORIZED OFFICER and, if so approved, all subsequent HOLDER activity shall conform in all respects to the provisions of the approval.

1.11. Changes in Conditions

1.11.1. Unforeseen conditions arising during construction, OPERATION or termination of the PIPELINE SYSTEM may make it necessary to revise or amend these STIPULATIONS to control or prevent damage to the environment (including fish and wildlife and/or their habitats), to protect or maintain subsistence use or prevent hazards to public health and safety. In that event, HOLDER and the AUTHORIZED OFFICER shall agree as what revisions or amendments shall be made. If they are unable to agree, the SECRETARY shall have final authority to determine the matter.

1.12. Cultural Resources

1.12.1. The HOLDER shall undertake the affirmative responsibility to identify, protect and preserve cultural, historic, prehistoric and archeological resources that may be impacted by its activities in the overall construction project in the State of Alaska on both Federal and non-Federal lands consistent with the National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470, et seq., the Archaeological and Historic Preservation Act of 1974, 16 U.S.C. 469, et seq., and the implementing procedures of the Advisory Council on Historic Preservation, 36 CFR Part 800. This responsibility will be executed in a manner consistent with the

terms of a Memorandum of Agreement, under Section 106 of the National Historic Preservation Act of 1966, 16 U.S.C. 470f, as amended, between the Advisory Council on Historic Preservation, the State Historic Preservation Officer, and the appropriate Federal and State officials, and developed in consultation with the HOLDER. The terms of such Memorandum of Agreement, except as otherwise mandated by law, shall not compel a change in the basic nature and general route of the approved transportation system or otherwise prevent or impair in any significant respect the expeditious construction and initial OPERATION of the transportation system.

1.13. Completion of Use

1.13.1. Upon completion of the use of all or any portion of the RIGHT-OF-WAY or other portion of the PIPELINE SYSTEM authorized under this GRANT, HOLDER shall promptly remove all improvements and equipment, except as otherwise approved by the AUTHORIZED OFFICER, and restore the land to a condition that is satisfactory to the AUTHORIZED OFFICER. The satisfaction of the AUTHORIZED OFFICER shall be stated in writing. Where approved in writing by the AUTHORIZED OFFICER, buried pipe may be left in place, provided HOLDER has shown to the satisfaction of the AUTHORIZED OFFICER that hydrocarbons and residues have been removed from the pipe and the ends have been suitably capped.

1.13.2. All areas utilized pursuant to authorizations issued in connection with the PIPELINE that do not constitute a part of the RIGHT-OF-WAY or are not otherwise required for PIPELINE SYSTEM OPERATIONS shall be restored by the HOLDER upon completion of use unless otherwise directed in writing by the AUTHORIZED OFFICER. HOLDER'S RESTORATION plans shall be approved in writing by the AUTHORIZED OFFICER in accordance with STIPULATION 2.12.

1.14. Public and Private Improvements

1.14.1. HOLDER shall provide reasonable protection to existing public or private improvements which may be adversely affected by its activities or those of its agents, employees, contractors (including subcontractors) and the employees of each of them during construction, OPERATION and termination of the PIPELINE SYSTEM. This protection shall specifically be provided to the TRANS-ALASKA PIPELINE SYSTEM and the ALASKA NATURAL GAS TRANSPORTATION SYSTEM on FEDERAL LANDS. If it is determined that the HOLDER has caused damage to such public and private improvements, and if the owner so requires, then the HOLDER shall promptly repair, or reimburse the owner for reasonable costs in repairing the property to a condition which is satisfactory to the owner, but need not exceed its condition prior to damage.

1.15. Regulation of Public Access

1.15.1. During construction or termination activities, HOLDER may regulate or prohibit public access to or upon any ACCESS ROAD being used for such activity. At all other times, HOLDER shall permit free and unrestricted public access to and upon ACCESS ROADS, except that with the written consent of the AUTHORIZED OFFICER, HOLDER may regulate or prohibit public access and vehicular traffic on ACCESS ROADS as required to facilitate operations or to protect the public, wildlife and livestock from hazards associated with the OPERATION of the PIPELINE SYSTEM. HOLDER shall provide appropriate warnings, flagmen, barricades and other safety measures when HOLDER is using ACCESS ROADS or regulating or prohibiting public access to or upon ACCESS ROADS.

1.15.2. During construction of the PIPELINE, the HOLDER shall provide alternative routes for existing roads and trails at locations and to standards as determined by the AUTHORIZED OFFICER, whether or not these roads or trails are recorded.

1.15.3. The HOLDER shall make provisions for suitable permanent crossings for the public at locations and to standards approved in writing by the AUTHORIZED OFFICER where the right-of-way crosses existing roads, foot-trails, winter trails, or other existing rights-of-way, including those validly established pursuant to 43 U.S.C. 932 prior to October 21, 1976.

1.15.4. After completion of construction of the PIPELINE SYSTEM, the AUTHORIZED OFFICER may designate areas of the RIGHT-OF-WAY to which the public shall have free and unrestricted access after consultation with HOLDER. As directed by the AUTHORIZED OFFICER, HOLDER shall post, gate, fence or otherwise restrict public access.

1.16. Electronically Operated Devices

1.16.1. The HOLDER shall, as necessary, screen, filter, or otherwise suppress any electronically operated devices installed as part of the PIPELINE SYSTEM which are capable of producing electromagnetic interference radiations so that such devices will not adversely affect the functioning of existing communications systems, including supervisory control systems used in connection with the operation of the TRANS-ALASKA PIPELINE SYSTEM and the ALASKA NATURAL GAS TRANSPORTATION SYSTEM, or navigational aids. In the event that structures such as towers or buildings are to be erected as parts of the PIPELINE SYSTEM, their positioning shall be such that they will not obstruct radiation patterns of existing line-of-sight communications systems, navigational aids, or similar systems. The HOLDER shall furnish a report and calculations showing the expected signal levels to the AUTHORIZED OFFICER.

1.17. Hunting, Fishing and Trapping

1.17.1. Holder shall inform its employees, agents, contractors, subcontractors and their employees of the applicable laws and regulations relating to hunting, fishing, trapping, feeding and harassment of wildlife.

1.18. Small Craft Passage

1.18.1. The creation of any permanent obstruction to the passage of small craft in streams is prohibited.

1.19. Protection of Survey Monuments

1.19.1. The HOLDER shall mark and protect all survey monuments encountered during construction, OPERATION and termination of the PIPELINE SYSTEM. These monuments are not to be disturbed; however, if disturbance of a monument or any of its accessories becomes necessary, the HOLDER will notify the AUTHORIZED OFFICER in writing before such disturbance occurs, and the AUTHORIZED OFFICER will provide instructions. A written report to the AUTHORIZED OFFICER will also be made immediately by the HOLDER in the event that any monuments or accessories are inadvertently damaged.

1.19.2. If any public land survey monuments, corners, or accessories (excluding geodetic survey monuments) of the United States or survey monuments of others, are destroyed or damaged during the construction, OPERATION or termination of the PIPELINE SYSTEM, the HOLDER shall employ a qualified land surveyor to reestablish or restore same in accordance with the "Manual of Instructions for the Survey of Public Lands" of the Bureau of Land Management and shall record such survey in the appropriate records. Additional requirements for the protection of monuments, corners, and bearing trees on FEDERAL LANDS may be prescribed by the AUTHORIZED OFFICER.

1.20. Fire Prevention and Suppression

1.20.1. HOLDER shall do everything reasonably within HOLDER'S power, both independently and upon request of the AUTHORIZED OFFICER, to prevent and suppress fires on or near the PIPELINE SYSTEM. This includes making available such construction and maintenance forces as may be reasonably obtained for the suppression of fires [Source - 43 CFR Subpart 2881.2(5)].

1.20.2. HOLDER shall promptly notify the AUTHORIZED OFFICER and the owners of the TRANS-ALASKA PIPELINE SYSTEM and the ALASKA NATURAL GAS TRANSPORTATION SYSTEM of any fires on, or which may threaten any portion of HOLDER'S PIPELINE SYSTEM, the TRANS-ALASKA PIPELINE SYSTEM or the ALASKA NATURAL GAS TRANSPORTATION SYSTEM.

1.20.3. Use of open fires in connection with construction, OPERATION and termination of the PIPELINE SYSTEM is prohibited on FEDERAL LANDS unless authorized in writing by the AUTHORIZED OFFICER.

1.21. Surveillance and Maintenance

1.21.1. During the construction, OPERATION and termination phases of the PIPELINE SYSTEM, the HOLDER shall conduct a surveillance and maintenance program applicable to the subarctic and arctic environment. At minimum, this program shall, with respect to the HOLDER'S activities, be designed to:

- A. protect public health and safety;
- B. protect natural resources;
- C. control erosion;
- D. maintain PIPELINE integrity;
- E. protect public and private property; and
- F. prevent damage to the TRANS-ALASKA PIPELINE SYSTEM or the ALASKA NATURAL GAS TRANSPORTATION SYSTEM from the HOLDER'S activities including the activities of its employees, agents, contractors (including subcontractors) and the employees of each of them, in connection with the PIPELINE.

1.21.2. The HOLDER shall provide a communications capability that ensures the transmission of information required for the safe construction, OPERATION and termination of the PIPELINE SYSTEM.

1.21.3. The HOLDER shall maintain complete and up-to-date records on construction, OPERATION and termination activities performed in connection with the PIPELINE SYSTEM. Such records shall include surveillance data, leak and failure records, necessary operational data, modification records, and such other data as may be required by 49 CFR, Parts 191 and 192, and other applicable Federal laws and regulations.

1.21.4. The HOLDER shall provide, as necessary, and maintain ACCESS ROADS and airstrips, the number, location and standards of which shall be approved by the AUTHORIZED OFFICER, to provide for continuing maintenance and surveillance of the PIPELINE SYSTEM.

1.22. Quarters, Transportation and Communications

1.22.1. HOLDER shall furnish, on a reimbursable basis and to the satisfaction of the AUTHORIZED OFFICER, such representatives of the United States involved in surveillance of the PIPELINE SYSTEM

as may be designated by the AUTHORIZED OFFICER with: adequate meals, living quarters, and office space, reasonable use of HOLDER'S communication systems; and with reasonable use of HOLDER'S surface and air transportation during the construction, OPERATION and termination of the PIPELINE SYSTEM. Whenever possible, the AUTHORIZED OFFICER will issue advance written notification to HOLDER with regard to the number of PERSONS for whom such services and facilities will be required.

1.23. Health and Safety

1.23.1. HOLDER shall take measures necessary to protect the health and safety of all PERSONS directly affected by activities performed in connection with the construction, OPERATION or termination of the PIPELINE SYSTEM and shall immediately abate any health or safety hazards. HOLDER shall promptly notify the AUTHORIZED OFFICER of all serious accidents which occur in connection with PIPELINE SYSTEM activities.

1.24. Conduct of OPERATIONS

1.24.1. HOLDER shall perform all PIPELINE SYSTEM OPERATIONS in a safe and workmanlike manner so as to ensure protection of the environment and the safety and integrity of the PIPELINE SYSTEM, and shall at all times employ and maintain personnel and equipment sufficient for that purpose. HOLDER shall immediately notify the AUTHORIZED OFFICER of any condition, problem, malfunction, or other occurrence which in any way threatens the integrity of the PIPELINE SYSTEM or may cause SIGNIFICANT DAMAGE to the environment.

1.24.2. HOLDER shall take all reasonable precautions to protect the TRANS-ALASKA PIPELINE SYSTEM and the ALASKA NATURAL GAS TRANSPORTATION SYSTEM from damage caused by HOLDER during construction, OPERATION or termination of the PIPELINE SYSTEM. Holder shall promptly notify the AUTHORIZED OFFICER and the owners or agents of the TRANS-ALASKA PIPELINE SYSTEM and the ALASKA NATURAL GAS TRANSPORTATION SYSTEM of any such condition, problem, malfunction or other occurrence which may in any way threaten the integrity of the TRANS-ALASKA PIPELINE SYSTEM or the ALASKA NATURAL GAS TRANSPORTATION SYSTEM.

1.25. Applicability of STIPULATIONS

1.25.1. Nothing in these STIPULATIONS shall be construed as applying to activities of HOLDER that have no relation to the PIPELINE SYSTEM.

1.25.2. Nothing in these STIPULATIONS shall be construed to affect any right or cause of action that otherwise would be available to HOLDER against any PERSON other than the United States.

2. ENVIRONMENTAL

2.1. Environmental Briefing

2.1.1 The HOLDER shall develop and provide environmental briefings for supervisory and field personnel directly related to the project and for Federal field representatives in accordance with the approved environmental briefings plan required by STIPULATION 1.7.2.

2.2. Pollution Control

2.2.1. General

2.2.1.1. HOLDER shall ensure that degradation of air, land and water quality is minimized or avoided when conducting PRE-CONSTRUCTION, construction, OPERATION and termination activities related to the PIPELINE SYSTEM. HOLDER shall comply with applicable State of Alaska air and water quality standards, as approved by the Environmental Protection Agency and with the requirements of the Environmental Protection Agency's National Pollutants Discharge Elimination System discharge permit program, and all other Federal and State laws and regulations relating to pollution control or prevention, in accordance with the approved environmental plans required by STIPULATION 1.7.2.

2.2.2. Air and Water Pollution

2.2.2.1. The HOLDER shall utilize and operate all facilities and devices used in connection with the PIPELINE SYSTEM so as to avoid or minimize ice fog. Facilities and devices which cannot be prevented from producing ice fog shall be located so as to minimize interference with airfields, communities or roads.

2.2.2.2. All Activities employing wheeled or tracked vehicles or other equipment are prohibited in lakes, WETLANDS, streams or rivers unless such activity is approved in writing by the AUTHORIZED OFFICER.

2.2.2.3. Natural ground temperature or natural surface water/groundwater temperature shall not be changed significantly by the PIPELINE SYSTEM or by any construction related activity unless approved in writing by the AUTHORIZED OFFICER.

2.2.2.4. The HOLDER shall comply with thermal pollution standards pursuant to State of Alaska water quality standards as approved by the Environmental Protection Agency.

2.2.3. Pesticides, Herbicides and Other Chemicals

2.2.3.1. Where possible, the HOLDER shall use nonpersistent and immobile types of pesticides, herbicides and other chemicals. Only those pesticides and herbicides currently registered by the Environmental Protection Agency pursuant to the Federal Insecticide, Fungicide and Rodenticide Act shall be applied. Applications of pesticides and herbicides shall be in accordance with label directions approved by the Environmental Protection Agency. Each Chemical to be used and its application constraints shall be approved in writing by the AUTHORIZED OFFICER prior to use.

2.2.4. Waste Disposal

2.2.4.1. All WASTE generated in construction, OPERATION and termination of the PIPELINE SYSTEM shall be removed or other wise disposed of in a manner acceptable to the AUTHORIZED OFFICER. All applicable Federal and State requirements will be incorporated in the plans required in STIPULATION 1.7.2.

2.3. Buffer Strips

2.3.1. Public Interest Areas

2.3.1.1. No construction activity in connection with the PIPELINE SYSTEM shall be conducted within one-half (1/2) mile of any officially designated Federal, State, Borough or Municipal park, wildlife refuge, wildlife range, critical habitat area, game sanctuary, research natural area, recreation area or site, wilderness area, wild and/or scenic river or any registered National Historic Site, National Landmark or Natural Landmark unless such activity is approved in writing by the AUTHORIZED OFFICER.

2.3.2. Vegetative Screen

2.3.2.1. Where the PIPELINE right-of-way crosses public highways, and other roads designated by the AUTHORIZED OFFICER, the PIPELINE shall be clearly marked as required in 49 CFR 192.707 and a screen of vegetation native to the adjacent areas shall be established over disturbed areas unless otherwise approved in writing by the AUTHORIZED OFFICER.

2.3.2.2. The PIPELINE SYSTEM shall be located so as to provide buffer strips of undisturbed land at least 500 feet wide between the PIPELINE SYSTEM and streams and lakes, unless otherwise approved in writing by the AUTHORIZED OFFICER.

2.3.2.3. Undisturbed buffer strips at least 500 feet wide will be maintained between material sites and public highways unless otherwise approved in writing by the AUTHORIZED OFFICER.

2.4. Erosion and Sedimentation Control

2.4.1. General

2.4.1.1. HOLDER shall perform all PIPELINE SYSTEM activities so as to minimize disturbance to all surface areas.

2.4.1.2. The design of the PIPELINE SYSTEM shall provide for the control of erosion, and sediment production, transport and deposit in accordance with the approved erosion and sedimentation control plan required in STIPULATION 1.7.2.

2.4.1.3. Erosion control measures, including the use of erosion control structures, if necessary, shall be implemented in accordance with the plans approved under STIPULATION 1.7.2. to limit induced and accelerated erosion, limit sediment production and transport and lessen the possibility of forming new drainage channels. The design of such measures shall be based on the rainfall rate and snowmelt combination characteristic of the region, the effects of thawing produced by flowing or ponded water on permafrost and the effects of ice. Permanent erosion control structures shall be designed to accommodate a 50-year flood.

2.4.1.4. Surface materials suitable for use in restoration that are taken from disturbed areas shall be stockpiled and utilized during restoration unless otherwise approved in writing by the AUTHORIZED OFFICER. Erosion and sediment control practices to be utilized shall be determined by the needs of specific sites and, as appropriate, shall include but not be limited to REVEGETATION, mulching, and placement of mat binders, soil binders, rock or gravel blankets or structures.

2.4.2. Crossing of WETLANDS, Streams, Rivers or Floodplains

2.4.2.1. HOLDER shall minimize the number of WETLAND, stream, river or floodplain crossings as a PIPELINE SYSTEM design criterion in accordance with the approved WETLAND, stream, river, or floodplain crossing plan required in STIPULATION 1.7.2.

2.4.2.2. HOLDER shall minimize erosion and sedimentation at and downstream from all stream, river and WETLANDS crossings and those parts of the PIPELINE SYSTEM within flood-plains as provided in STIPULATION 3.8.

2.4.2.3. Temporary access over streambanks prior to and following trenching shall be made through use of fill ramps rather than by cutting through streambanks, unless otherwise approved in writing

by the AUTHORIZED OFFICER. HOLDER shall remove such ramps upon termination of seasonal or final use. Ramp materials shall be disposed of in a manner approved in writing by the AUTHORIZED OFFICER.

2.4.2.4. HOLDER shall plan the timing and location of WETLAND, stream, river or floodplain crossings during design of the PIPELINE SYSTEM to minimize impacts to fish and wildlife populations, habitats and uses.

2.4.3. Excavated Material

2.4.3.1. Excavated material in excess of that required to back fill around any structure, including the pipe, or unsuitable for back fill or restoration purposes, shall be disposed of in accordance with the approved overburden and excess material disposal plan required in STIPULATION 1.7.2.

2.4.3.2. Excavated materials shall not be stockpiled in rivers, streams or flood-plains, or on ice unless approved in writing by the AUTHORIZED OFFICER. In WETLANDS stockpiling shall be in accordance with the plan required by STIPULATION 1.7.2.

2.5. Fish and Wildlife Protection

2.5.1. Fish

2.5.1.1. During PRE-CONSTRUCTION, construction, OPERATION and termination of the PIPELINE SYSTEM, the HOLDER shall ensure that there exists free passage and movement of fish in streams designated by the AUTHORIZED OFFICER. Temporary blockages of fish necessitated by instream activities may be approved. Construction planning required by the detailed network analysis diagrams in STIPULATION 1.8. and NOTICE-TO-PROCEED application as provided in STIPULATION 1.10. shall include the time and place that such temporary blockages may occur.

2.5.1.2. Pump intakes shall be screened to prevent harm to fish. Screening specifications shall be approved by the AUTHORIZED OFFICER.

2.5.1.3. When abandoned, water diversion structures shall be removed or plugged and stabilized, unless otherwise approved in writing by the AUTHORIZED OFFICER.

2.5.1.4. HOLDER shall avoid disturbances to those FISH SPAWNING BEDS, FISH REARING AREAS and FISH OVERWINTERING AREAS designated by the AUTHORIZED OFFICER. However, where disturbances cannot be avoided, proposed modifications and appropriate mitigation measures shall be designed by HOLDER and approved in writing by the AUTHORIZED OFFICER.

2.5.1.5. HOLDER shall protect FISH SPAWNING BEDS, FISH REARING AREAS, and FISH OVERWINTERING AREAS from sediment where soil material is expected to be suspended in water as a result of construction activities. Settling basins or other sediment control structures shall be constructed and maintained to intercept such sediment before it reaches rivers, streams, lakes or WETLANDS.

2.5.1.6. HOLDER shall comply with any site-specific terms and conditions imposed by the AUTHORIZED OFFICER to protect FISH SPAWNING BEDS, FISH REARING AREAS, and FISH OVERWINTERING AREAS from the effects of HOLDER'S activities. If material sites are approved adjacent to or in lakes, rivers, streams, WETLANDS, or flood-plains the AUTHORIZED OFFICER may require HOLDER to construct levees or berms or employ other suitable means to protect fish and fish passage and to prevent or minimize sedimentation. HOLDER shall repair damage to such areas caused by construction, OPERATION or termination of the PIPELINE SYSTEM to the satisfaction of the AUTHORIZED OFFICER as stated in writing.

2.5.1.7. HOLDER shall not take water from FISH SPAWNING BEDS, FISH REARING AREAS, and FISH OVERWINTERING AREAS or waters that directly replenish those areas during critical periods that will be defined by the AUTHORIZED OFFICER, unless otherwise approved by the AUTHORIZED OFFICER.

2.5.2. Big Game Movements

2.5.2.1. HOLDER shall design, construct and maintain both the buried and above ground sections of the PIPELINE so as to assure free passage and movement of big game animals.

2.5.3. Zones of Restricted Activities

2.5.3.1. Activities of HOLDER in connection with construction, OPERATION and termination of the PIPELINE SYSTEM in key fish and wildlife areas and in specific areas where threatened or endangered species of animals are found may be restricted by the AUTHORIZED OFFICER during periods of fish and wildlife breeding, nesting, spawning, lambing and calving activity, overwintering, and during major migrations of fish and wildlife. The AUTHORIZED OFFICER shall provide HOLDER written notice of such restrictive action. At least annually and as far in advance of such restrictions as is possible, the AUTHORIZED OFFICER shall furnish HOLDER an updated list of those areas where such actions may be required, together with anticipated dates of restriction.

2.6. Mineral Material Sites

2.6.1. If HOLDER requires mineral materials from FEDERAL LANDS, HOLDER shall make application to purchase such mineral materials in accordance with 43 CFR Part 3610 and the material exploration

and extraction plan required in STIPULATION 1.7.2. HOLDER shall submit a mining plan in accordance with the requirements of the AUTHORIZED OFFICER. No mineral materials may be removed without the written approval of the AUTHORIZED OFFICER.

2.6.2. Mineral materials site boundaries shall be shaped in such a manner as to blend with the surrounding natural land patterns. Regardless of the layout of material sites, primary emphasis shall be placed on prevention of soil erosion and damage to vegetation, and destruction of fish and wildlife habitat.

2.7. Clearing

2.7.1. Boundaries

2.7.1.1. HOLDER shall identify clearing boundaries on the ground which shall be approved by the AUTHORIZED OFFICER prior to beginning clearing operations. All timber and other vegetative material outside clearing boundaries and all blazed, painted or posted trees which are on or mark clearing boundaries are reserved from cutting and removal with the exception of danger trees or snags designated by HOLDER and approved by the AUTHORIZED OFFICER.

2.7.2. Timber

2.7.2.1. Prior to initiating clearing operations, HOLDER shall notify the AUTHORIZED OFFICER in writing of the location of merchantable timber, if any, which will be cut, removed or destroyed in the construction, OPERATION or termination of the PIPELINE and shall pay the United States in advance of removal activity, such sum of money as the AUTHORIZED OFFICER determines to be the full stumpage value of the timber to be cut, removed or destroyed.

2.7.2.2. All trees, snags and other wood material cut in connection with clearing operations shall be cut so that the resulting stumps shall not be higher than six (6) inches measured from the ground on the uphill side.

2.7.2.3. All trees, snags and other wood materials cut in connection with clearing operations shall be felled into the area within the clearing boundaries and away from watercourses.

2.7.2.4. Hand clearing shall be used in areas where the AUTHORIZED OFFICER determines that use of heavy equipment would be detrimental to existing conditions.

2.7.2.5. All debris resulting from clearing operations that may block stream flow, delay or block fish passage, contribute to flood damage or result in stream bed scour or erosion shall be removed within 48 hours unless otherwise approved or directed by the AUTHORIZED OFFICER.

2.7.2.6. Logs shall not be skidded or yarded across any stream without the written approval of the AUTHORIZED OFFICER.

2.7.2.7. No log landing shall be located within five hundred (500) feet of any watercourse unless otherwise approved in writing by the AUTHORIZED OFFICER.

2.7.2.8. To prevent the spreading of spruce bark beetles, all spruce slash shall be disposed of prior to the start of the thaw season following the cutting of the slash and to the satisfaction of the AUTHORIZED OFFICER.

2.7.2.9. Disposal of vegetation, nonmerchantable timber, overburden and other materials removed during clearing operations shall be addressed in the plans required in STIPULATION 1.7.2. and approved in writing by the AUTHORIZED OFFICER.

2.8. Disturbance or Use of Natural Water

2.8.1. All activities of HOLDER in connection with the PIPELINE SYSTEM that may create new lakes, drain existing lakes, significantly divert natural drainages and surface runoff, permanently alter stream or groundwater hydrology or disturb significant areas of stream beds are prohibited unless such activities along with necessary mitigative measures are approved in writing by the AUTHORIZED OFFICER.

2.8.2. The HOLDER shall not develop or utilize any wells or surface water sources on FEDERAL LANDS for the construction, OPERATION or termination of the PIPELINE SYSTEM without the prior written approval of the AUTHORIZED OFFICER and in compliance with A.S. 46.15.

2.9. Off RIGHT-OF-WAY Traffic

2.9.1. The HOLDER shall not operate mobile ground equipment on FEDERAL LANDS off the right-of-way, any roads, or authorized areas unless approved in writing by the AUTHORIZED OFFICER or when necessary to prevent immediate harm to any person or property.

2.10. Visual Resources

2.10.1. The HOLDER shall assess the visual impacts of the PIPELINE SYSTEM and shall provide mitigative measures that ameliorate those identified impacts in planning all construction, OPERATION and termination activities of the PIPELINE SYSTEM. The HOLDER shall submit a visual impact plan for the PIPELINE SYSTEM in accordance with STIPULATION 1.7.2.

2.11. Use of Explosives

2.11.1. HOLDER shall submit a plan for storage and use of explosives, including but not limited to blasting techniques, to the AUTHORIZED OFFICER for approval in accordance with STIPULATION 1.7.2.

2.11.2. No blasting shall be conducted in streams, rivers or lakes, or within one quarter (1/4) mile of identified fish or wildlife resources without written approval of the AUTHORIZED OFFICER.

2.11.3. Timing and location of blasting shall be approved by the AUTHORIZED OFFICER.

2.12. RESTORATION

2.12.1. Upon completion of use, HOLDER shall RESTORE all areas of FEDERAL LANDS disturbed by it, in accordance with schedules approved by the AUTHORIZED OFFICER and approved plans required under STIPULATION 1.7.2. RESTORATION performed by HOLDER shall be approved in writing by the AUTHORIZED OFFICER. Unless otherwise directed by the AUTHORIZED OFFICER, all disturbed areas of FEDERAL LANDS shall be left in such stabilized condition that erosion will be minimized through such means as adequately designed and constructed waterbars, REVEGETATION and chemical surface control; culverts and bridges shall be removed; and slopes shall be RESTORED by HOLDER in a manner satisfactory to the AUTHORIZED OFFICER.

2.12.2. REVEGETATION of disturbed areas of FEDERAL LANDS shall be accomplished as soon as practicable in accordance with plans and schedules required under STIPULATION 1.7.2. The results of REVEGETATION must be satisfactory to the AUTHORIZED OFFICER as stated in writing.

2.12.3. HOLDER shall dispose of all materials from ACCESS ROADS, haul ramps, berms, dikes, and other earthen structures it has placed on FEDERAL LANDS, in accordance with approved RESTORATION plans unless otherwise directed by the AUTHORIZED OFFICER.

2.12.4. Pending RESTORATION of a disturbed area of FEDERAL LANDS, HOLDER shall maintain the area in a stabilized condition satisfactory to the AUTHORIZED OFFICER.

2.12.5. Upon completion of RESTORATION of an area of FEDERAL LANDS, HOLDER shall remove all equipment and supplies from that area in accordance with approved RESTORATION plans unless otherwise directed by the AUTHORIZED OFFICER.

2.12.6. HOLDER shall maintain all restored areas of FEDERAL LANDS in accordance with approved plans required under STIPULATION 1.7.2.

2.13. Reporting, Prevention, Control, Cleanup and Disposal of OIL, GAS and HAZARDOUS SUBSTANCE Discharges

2.13.1. HOLDER shall give notice in accordance with applicable law of any spill, leakage, or discharge of OIL, GAS or other HAZARDOUS SUBSTANCES in connection with the construction, OPERATION or termination of the PIPELINE SYSTEM to:

- A. the AUTHORIZED OFFICER; and
- B. such other Federal and State officials as are required by law to be given such notice.

Any oral notice shall be confirmed in writing within 24 hours. HOLDER may group small spills on FEDERAL LANDS in accordance with State of Alaska Department of Environmental Conservation requirements and report them to the AUTHORIZED OFFICER on a weekly basis.

2.13.2. HOLDER shall submit an OIL and HAZARDOUS SUBSTANCE control, cleanup and disposal plan to the AUTHORIZED OFFICER in accordance with STIPULATION 1.7.2; and where applicable, in accordance with 40 CFR, Part 112. The plan shall conform to this STIPULATION and shall outline all areas where OIL and/or HAZARDOUS SUBSTANCES are stored, utilized, transported or distributed. The plan shall address fuel distribution systems, storage and containment, containerized products, leak detection systems, handling procedures, training programs, provisions for collection, storage and ultimate disposal of waste oil, cleanup methods, and disposal sites. The plan shall be approved in writing by the AUTHORIZED OFFICER and HOLDER shall demonstrate its capability and readiness to execute the plan to the satisfaction of the AUTHORIZED OFFICER.

2.14. PIPELINE Contingency Plan

2.14.1. HOLDER shall submit a PIPELINE contingency plan to the AUTHORIZED OFFICER. The plan shall conform to the requirements of 49 CFR, Sections 192.605 and 192.615 and shall outline the steps to be taken in the event of a failure, leak or explosion in the PIPELINE. The plan shall be approved in writing by the AUTHORIZED OFFICER prior to PIPELINE startup and HOLDER shall demonstrate its capability and readiness to execute the plan to the satisfaction of the AUTHORIZED OFFICER.

2.14.2. The HOLDER shall, as appropriate, update the plan and methods of implementation thereof, which shall be submitted annually to the AUTHORIZED OFFICER.

3. TECHNICAL

3.1. PIPELINE SYSTEM Standards

3.1.1. All design, material, construction, inspection, initial testing, OPERATION and termination practices employed in the PIPELINE and RELATED FACILITIES shall be in accordance with safe and proven engineering practice and shall meet or exceed the following standards:

A. U.S. Department of Transportation regulations, 49 CFR Part 192, "Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards";

B. American National Standards Institute Code B 31.8 Gas Transmission and Distribution Piping Systems; and

C. ASME Gas Piping Standard Committee, latest edition: "Guide for GAS Transmission and Distribution Piping System";

D. U.S. Department of Transportation regulations, 49 CFR Part 191, "Transportation of Natural and Other Gas by Pipeline; Annual Reports and Incident Reports";

E. U.S. Department of Transportation regulations, 49 CFR Part 193, "Liquified Natural Gas Facilities: Federal Safety Standards".

3.1.2. Requirements in addition to those set forth in the above minimum standards may be imposed by the AUTHORIZED OFFICER as necessary to reflect the impact of arctic and subarctic environments. If any standard contains a provision which is inconsistent with a provision in another standard, the more stringent standard shall apply. The AUTHORIZED OFFICER shall make every effort to identify such additional requirements during the design phase.

3.2. Special Standards

3.2.1. The PIPELINE design for construction in environmentally sensitive areas designated by the AUTHORIZED OFFICER, shall provide for minimum maintenance needs to reduce reentry requirements.

3.2.2. All practicable means shall be utilized to avoid undue and unnecessary degradation to the ground organic layer.

3.2.3. PIPELINE design shall include special design to avoid or limit pipe crack propagation.

3.2.4. The HOLDER shall inspect 100 percent where practicable but not less than 90 percent of the main line girth welds using radiographic or other nondestructive inspection techniques to assure compliance with the defect acceptability standards in 49 CFR Part 192. Where radiography is used, x-ray radiography will be used, unless otherwise approved by the AUTHORIZED OFFICER.

3.2.5. Welder qualification tests shall be by destructive means, in accordance with Section 3 of API 1104, except that operators of automatic welding equipment may be qualified by radiography. Welder qualification tests for station piping facilities may alternately be in accordance with ASME Boiler and Pressure Vessel Code, Section 9.

3.2.6. The PIPELINE design shall provide for sectionalizing block valves, protective devices to prevent overpressuring, and other safety devices installed at locations required by 49 CFR Part 192, or as may be designated by the AUTHORIZED OFFICER during the DESIGN CRITERIA reviews to accommodate potentially hazardous areas, other facilities, and environmental values.

3.2.7. The PIPELINE shall be separated by 200 feet or more from facilities of the TRANS-ALASKA PIPELINE SYSTEM and the ALASKA NATURAL GAS TRANSPORTATION SYSTEM (except ACCESS ROADS, airfields, or other facilities which are not either OIL or GAS containing or civil works or structures which protect or physically support OIL or GAS containing facilities). The AUTHORIZED OFFICER will designate the points on the facilities from which the 200 feet shall be measured. Separations of less than 200 feet requested by the HOLDER may be approved by the AUTHORIZED OFFICER at crossing of the TRANS-ALASKA PIPELINE SYSTEM and the ALASKA NATURAL GAS TRANSPORTATION SYSTEM and at other locations agreed upon by the respective owners of the TRANS-ALASKA PIPELINE SYSTEM and the ALASKA NATURAL GAS TRANSPORTATION SYSTEM and the HOLDER. At other locations where required to avoid environmental damage or terrain constraints, requests by HOLDER for separation of less than 200 feet may be approved by the AUTHORIZED OFFICER, provided that the AUTHORIZED OFFICER has first determined that the following criteria have been met:

A. stability of foundation and other earth materials will be protected and maintained;

B. the integrity of the PIPELINE will be reasonably protected and maintained;

C. SIGNIFICANT DAMAGE to the environment (including but not limited to fish and wildlife populations and/or their habitats) will not be caused;

D. hazards to public health and safety will not be created;

E. the TRANS-ALASKA PIPELINE SYSTEM and the ALASKA NATURAL GAS TRANSPORTATION SYSTEM will be reasonably protected from adverse affects of the HOLDER'S activities including the activities of its agents, employees, and contractors (including subcontractors), and the employees of each of them; and

F. provided that in no case will reducing the cost of construction be the sole consideration upon which such approval is based.

3.2.8. HOLDER shall provide a quality control system to assure compliance with approved plans, specifications, procedures, this GRANT, and these STIPULATIONS.

3.3. Standards for ACCESS ROADS

3.3.1. Design, materials, and construction and maintenance practices employed for ACCESS ROADS shall be in accordance with safe and proven engineering practices and in accordance with the principles of construction for secondary roads for the arctic and subarctic environments, and in accordance with STIPULATION 1.8.2.

3.3.2. HOLDER shall submit a layout of each proposed ACCESS ROAD for approval by the AUTHORIZED OFFICER in connection with any use authorization application.

3.3.3. ACCESS ROADS shall be constructed to widths suitable for safe operation of equipment at the travel speeds proposed by HOLDER.

3.3.4. The maximum allowable grade for ACCESS ROADS shall be twelve (12) percent unless otherwise approved in writing by the AUTHORIZED OFFICER.

3.3.5. To provide lateral drainage, non-paved road surfaces shall be crowned and windrows of surface material shall not be left on the road edges.

3.4. CONSTRUCTION MODE Requirements

3.4.1. The selection of the CONSTRUCTION MODE shall be governed by the results of adequate geotechnical field exploration and testing programs. Comprehensive analyses shall be made to assure that PIPELINE integrity will be maintained and that construction or OPERATION of the PIPELINE will not cause or exacerbate major terrain disturbances. Analysis shall consider stresses and strains on the PIPELINE by internal and external loading and shall include, but not be limited to, total and differential heaving, permafrost (especially liquefaction and differential settlement

after thawing), frost action, seismic loading, slope stability, active faults, swelling soils, subsidence, erosion, flooding, icings, and differential temperature stress. The FINAL DESIGN for the CONSTRUCTION MODE shall be submitted to the AUTHORIZED OFFICER for written approval in accordance with STIPULATION 1.11.

3.5. Earthquakes and Fault Displacements

3.5.1. Earthquakes

3.5.1.1. The PIPELINE SYSTEM shall be designed by appropriate application of modern, state-of-the-art seismic design procedures to protect the PIPELINE SYSTEM from the effects (including seismic shaking, ground deformation, and earthquake-induced mass movements) of earthquakes distributed along its route.

3.5.1.2. HOLDER shall provide a seismic monitoring system, to be approved in writing by the AUTHORIZED OFFICER, and shall ensure there are adequate procedures for the safe shutdown of the PIPELINE SYSTEM under seismic conditions that may affect PIPELINE SYSTEM integrity. Such procedures, to be considered adequate, shall include but not necessarily be limited to:

A. communication capability with all key operating control points on the PIPELINE SYSTEM, the GAS processing plant, the terminal including the Liquified Natural Gas Plant, and other parties with seismic monitoring capabilities, as appropriate;

B. a control center for the PIPELINE SYSTEM;

C. operating procedures establishing the actions to be taken in the event of seismic conditions that may affect PIPELINE SYSTEM integrity; and

D. seismic sensors as necessary to supplement existing monitoring capabilities.

3.5.2. Fault Displacements

3.5.2.1. Prior to applying for any NOTICE TO PROCEED, HOLDER shall satisfy the AUTHORIZED OFFICER that all recognizable or reasonably inferred active faults or fault zones along the alignment have been identified and delineated and any risk of major PIPELINE SYSTEM damage resulting from fault movement and ground deformation has been adequately assessed and provided for in the design of the PIPELINE SYSTEM in accordance with the approved geologic hazards plan required by STIPULATION 1.7.2. Evaluation of said risk shall be based on geologic, geomorphic, geodetic, seismic, and other appropriate scientific evidence of past or present fault behavior and shall be compatible with the design earthquakes and with observed relationships between earthquake magnitude and extent and amount of deformation and fault slip within the fault zone.

3.5.2.2. Minimum DESIGN CRITERIA as required by STIPULATION 1.7.2. for any portion of the PIPELINE SYSTEM traversing a fault zone that is interpreted by the AUTHORIZED OFFICER as active shall be:

A. that the PIPELINE SYSTEM resist failure resulting in line rupture from maximum anticipated horizontal and/or vertical displacement in the foundation material anywhere within the fault zone during the life of the PIPELINE SYSTEM; and

B. that no storage tank or compressor station be located within the fault zone unless otherwise approved by the AUTHORIZED OFFICER.

3.6. Slope Stability

3.6.1. Areas subject to mudflows, landslides, avalanches, rock falls, and other types of mass movements shall be avoided where practicable in locating the PIPELINE SYSTEM. Where such avoidance is not practicable, the PIPELINE SYSTEM design, based upon detailed field investigations and analysis, shall provide measures to prevent the occurrence of, or protect the PIPELINE SYSTEM against the effects of mass movements. The PIPELINE shall be designed to protect existing facilities, including the TRANS-ALASKA PIPELINE SYSTEM and the ALASKA NATURAL GAS TRANSPORTATION SYSTEM, from the effects of mass movement caused by HOLDER'S activities (including the activities of HOLDER'S employees, agents, contractors, and subcontractors, and the employees of each of them) and shall not adversely affect slope stability protection measures of existing structures.

3.7. WETLANDS, River, Stream and Floodplain Crossings and Erosion

3.7.1. General

3.7.1.1. The PIPELINE SYSTEM shall be designed so as to minimize the number of WETLAND, river, stream and flood plain crossings and to include, but not be limited to, consideration of aufeis development, erosion and sedimentation, restriction of natural meander or alteration of the physical or chemical nature of the waterbody as well as the effect of any alteration in these factors caused by HOLDER'S activities or the activities of its agents, employees, contractors, or subcontractors, and the employees of each of them upon the existing facilities of the TRANS-ALASKA PIPELINE SYSTEM and the ALASKA NATURAL GAS TRANSPORTATION SYSTEM.

3.7.1.2. The PIPELINE SYSTEM shall be designed to withstand or accommodate the effects (including runoff, stream and floodplain erosion, meander cutoffs, lateral migration, ice-jams, and icings) of those meteorologic, hydrologic (including surface and subsurface) and hydraulic conditions considered reasonably possible for the region. The following standards shall apply to PIPELINE design:

A. the PIPELINE shall cross streams underground unless a different means of crossing is approved in writing by the AUTHORIZED OFFICER;

B. the PIPELINE design flood shall be based on the concept of the STANDARD PROJECT FLOOD;

C. the depth of channel scour shall be established by appropriate field investigations and theoretical calculations using those combinations of water velocity and depth that yield the maximum value and at the point of maximum scour, the cover over the pipe shall be at least twenty (20) percent of the computed scour, but not less than four (4) feet;

D. for approved overhead crossings of streams, an analysis shall be made to ensure that support structures are adequately protected from the effects of scour, channel migration, undercutting, ice forces, degradation of permafrost, and other internal and external loads;

E. to avoid channelization along the pipe, appropriate design and construction procedures will be included in the plans required in STIPULATION 1.7.2 and shall be used wherever there is potential for such channelization;

F. all pipe trench excavation shall stop an adequate distance from water crossings to leave a protective plug of unexcavated material at each bank until the stream bed excavation is complete and the pipe laying operation is begun. The pipe trench shall be backfilled with stable material as soon as the pipe is laid.

3.7.1.3. Low water crossings (fords across streams or rivers where any mobile ground equipment is moved on the streambed) shall be designed, constructed, maintained, and restored to standards approved in writing by the AUTHORIZED OFFICER.

3.7.2. Culverts and Bridges

3.7.2.1. Culverts and bridges necessary for the OPERATION of the PIPELINE SYSTEM shall be designed at a minimum to accommodate a fifty (50) year flood in accordance with criteria established by the American Association of State Highway Officials and the Federal Highway Administration and endorsed by the Alaska Department of Transportation and Public Facilities. On waterways where a United States Coast Guard bridge permit is required, bridges shall be designed to accommodate a one hundred (100) year flood in accordance with DOT Order 5650.2.

3.7.2.2. Culverts necessary for the construction, OPERATION or termination of the PIPELINE SYSTEM shall be designed in accordance with DESIGN CRITERIA required by STIPULATION 1.7.2. unless otherwise approved by the AUTHORIZED OFFICER.

3.7.3. Erosion

3.7.3.1. Erosion control shall be performed in accordance with plans required by STIPULATION 1.7.2.

3.7.3.2. To prevent erosion, the AUTHORIZED OFFICER may direct HOLDER to stabilize the culvert inlet and outlet areas by appropriate methods, e.g., by the use of stilling basins or riprap and/or armor.

3.7.3.3. Slopes of cuts through stream banks shall be designed and constructed to minimize erosion and prevent slides.

3.7.3.4. Erosion control procedures shall accommodate and be based on the runoff produced by the maximum rainfall rate and snowmelt rate combination reasonably characteristic of the region. The procedures shall also accommodate effects that result from thawing produced by flowing or ponded water on permafrost terrain and the effects of ice.

3.8. Construction and OPERATION

3.8.1. All construction, OPERATION and termination activities in connection with the PIPELINE shall be conducted so as to avoid or minimize thermal and other environmental changes and to provide maximum protection to the environment (including fish and wildlife and their habitats), subsistence use, public health and safety, and people. All working platforms, pads, fills, and other surface modifications shall be planned and executed in such a way that any resulting degradation of permafrost will not jeopardize the surrounding environment, including foreign pipelines and other structures.

3.8.2. A monitoring program shall be developed by HOLDER as part of the surveillance and maintenance plan required by STIPULATION 1.8.2. which shall identify any PIPELINE movement, that may affect PIPELINE integrity, resulting from frost heave, settlement or seismic forces. This program, including baseline data, shall be finalized and operational prior to transmission of GAS through the PIPELINE.

3.8.3. The HOLDER shall provide plans for corrosion resistant design and methods for early detection of corrosion in accordance with 49 CFR Part 192. This shall include consideration of:

A. pipeline material to be used and information on its particular suitability for the environment involved;

B. details on the external pipe protection to be provided (coating, wrapping, etc.), including information on variations of the coating process to cope with variations in environmental factors along the PIPELINE SYSTEM route;

C. plans for cathodic protection including details of impressed current sources and controls to ensure continuous maintenance of adequate protection over the entire surface of the pipe;

D. details of plans for monitoring cathodic protection current, including spacing of current monitors;

E. provision for periodic intensive surveys of trouble spots, regular preventive maintenance surveys, and special provisions for abnormal potential patterns, especially those resulting from other pipelines or cables;

F. information on any precautions that may be required to prevent internal corrosion of the PIPELINE SYSTEM.

3.9. Containment of Spills of OIL or Other HAZARDOUS SUBSTANCES

3.9.1. HOLDER shall construct containment dikes or other suitable structures around all temporary and permanent PIPELINE storage facilities for OIL or other HAZARDOUS SUBSTANCES or WASTES. The volume of the containment structures shall be at least:

A. one-hundred and ten (110) percent of the total storage volume of the storage tanks in the relevant area, plus

B. an additional volume sufficient to contain the maximum trapped precipitation and runoff which might be impounded at the time of failure of the storage facility. Such containment structures shall be constructed to provide seepage-free storage until disposal of their contents can be safely made without contamination of the surrounding area.

3.9.2. All OIL, HAZARDOUS SUBSTANCES, or HAZARDOUS WASTES utilized or produced during the construction, OPERATION or termination of the PIPELINE, shall be stored in above ground containers surrounded by such containment structures described in STIPULATION 3.9.1. until utilized or disposed of in compliance with applicable Federal and State laws and regulations. Unless otherwise approved in writing by the AUTHORIZED OFFICER, all inlet and outlet piping from storage facilities for OIL, HAZARDOUS SUBSTANCE, OR HAZARDOUS WASTES shall be above ground (or buried in utilidors approved by the AUTHORIZED OFFICER) and all pipe joints shall be welded.

EXHIBIT C

**Requirements of the Department of Defense
Relating to Military Installations**

Requirements of the Department of Defense
Relating to Military Installations

Definitions:

As used in this Exhibit, the following terms have the meanings indicated:

"INSTALLATION COMMANDER": The Commanding Officer or his duly authorized representative of a military installation, e.g., Fort Wainwright, Fort Greely, Eielson Air Force Base.

"HOLDER": The Yukon Pacific Corporation, an Alaskan corporation.

General Requirements:

1. Entry upon military land for PRE-CONSTRUCTION, construction, OPERATION or termination of the PIPELINE SYSTEM shall be fully coordinated ten (10) days in advance of entry with the appropriate INSTALLATION COMMANDER having immediate jurisdiction over the property. Entry under emergency conditions shall be coordinated expeditiously with the INSTALLATION COMMANDER.
2. Entry for all activities conducted by the HOLDER upon all military installations shall be in strict compliance with post/base regulations, both existing or hereafter promulgated. The HOLDER shall obtain copies of such regulations from the affected INSTALLATION COMMANDERS.
3. Ingress and egress to military installations shall be confined to routes designated by the INSTALLATION COMMANDER. Such commander shall have the right to modify or change the designated routes without advance notice to the HOLDER. Use of existing military roads or other access routes across subject lands shall be non-exclusive.
4. The HOLDER shall reimburse the United States, through the Army or Air Force installation affected, for any increased maintenance costs of existing military roads resulting from or attributable to usage by the HOLDER. These costs shall be in addition to those contemplated by the rental and reimbursement provisions of the RIGHT-OF-WAY GRANT.
5. The HOLDER may construct permanent ACCESS ROADS within the RIGHT-OF-WAY, provided such roads do not interfere with the surface use of the area by the military, except during the construction phase.

6. Roads designated by the INSTALLATION COMMANDER to require intermittent military usage may be closed by the HOLDER.

The INSTALLATION COMMANDER shall approve in advance all such closures. Any extended closure shall cause the road to be treated as stated in Section 3 of these General Requirements.

7. Any overhead construction relating to the PIPELINE shall provide for a minimum of eighteen (18) feet of clearance above the existing road surface.
8. Crossover road ramp construction relative to ramp grades, PIPELINE cover, sleeves, bridging, signs and the like will conform to the standards of the Alaska State Highway Department.
9. Final route selection, as mapped, and any subsequent changes thereto across military lands will be approved by the affected INSTALLATION COMMANDER prior to construction. The route of the PIPELINE shall be located so as to avoid military improvements, and any proposed routes near or adjacent to fuel or ammunition storage areas shall be coordinated with the appropriate safety officer and INSTALLATION COMMANDER.
10. Crossing of Army petroleum oil and lubricant (POL) lines will be coordinated with the affected INSTALLATION COMMANDER and the Petroleum Division (AFVR-DL-L), 6th Infantry Division (Light), Fort Richardson, Alaska.
11. Burial depth and technique shall be sufficient to permit surface crossing of the RIGHT-OF-WAY by heavy tracked and wheeled vehicles at designated locations of existing roads and runways. In the event that subsurface construction cannot be accomplished to the satisfaction of the INSTALLATION COMMANDER, the PIPELINE shall be relocated to an area or areas where burial is permissible, or where surface construction can be authorized without interruption of the military mission. CONSTRUCTION MODE shall require the prior consent of the INSTALLATION COMMANDER.
12. Disruption of, or interference with the operation and maintenance of any military pipelines, utility and communication lines is prohibited except by authorization by the INSTALLATION COMMANDER. The PIPELINE shall cross all existing intersecting pipelines, conduits, and cables with a minimum clearance of twelve (12) inches.
13. Maximum length of open trench or trenches during construction of the PIPELINE over and across the subject land shall not exceed one (1) mile at any given time without the prior approval of the INSTALLATION COMMANDER.

14. Suitable bridged crossings over open trenches shall be provided and maintained where necessary to permit passage of military personnel and vehicles; timely notice of requirements will be furnished by the INSTALLATION COMMANDER.
15. In connection with the HOLDER'S duties to repair, replace, and rehabilitate as provided for in Section 9.B.2 contained in the GRANT, where borrowed soil material is necessary to perform such duties, the location and method of obtaining the borrowed material shall be approved by the INSTALLATION COMMANDER. All surplus material not required for fill, backfill or grading shall be spread and leveled in an area designated by said commander.
16. The HOLDER shall submit legal descriptions of the centerline of the RIGHT-OF-WAY and permanent ACCESS ROADS as constructed in, upon, over and across military-controlled lands to the INSTALLATION COMMANDER. Separate legal descriptions shall be written for each noncontiguous tract of military controlled land. Said legal descriptions shall be accompanied by "as-built" drawings together with separate real estate maps in the event sufficient survey information necessary to verify legal descriptions is not contained on the "as-built" drawings.
17. The HOLDER shall install mainline valves sufficient to control flow in the vicinity of populated areas, ammunition/explosive and fuel storage areas.
18. Electrically operated devices installed as part of the PIPELINE which are capable of producing radiation, electro-magnetic or other interference, shall be screened, filtered or otherwise suppressed to the extent that such devices will not adversely affect the function of existing communication systems. In the event that physical obstructions, such as towers or buildings are to be erected as part of the PIPELINE, their positioning shall be such that they will not obstruct radiation patterns of line-of-site communication, navigation aids of other communications, electronic, or meterological services.
19. Entry for PRE-CONSTRUCTION, construction, OPERATION or termination upon installations or crossings of utility facilities under the control of or utilized by Air Force Communications System/White Alice will be coordinated at least ten (10) days prior to entry with 1931st Communications Group through Headquarters, Alaskan Air Command, Elmendorf Air Force Base. Entry under emergency conditions will be coordinated expeditiously with the Communications Group.

20. Should the PIPELINE cross high voltage power transmission lines, adequate precaution to the satisfaction of the INSTALLATION COMMANDER will be taken to insure that excessive sag or accidental powerline breakage does not create a safety hazard.
21. In the event unexploded munitions are discovered by the HOLDER during PRE-CONSTRUCTION, construction, OPERATION or termination activities, such activities shall immediately cease in that area. The HOLDER shall notify the INSTALLATION COMMANDER who will immediately proceed to dispose of the munitions. Activities will not proceed until authorized by the INSTALLATION COMMANDER.
22. The United States reserves to itself the right to construct, use, and maintain across, over and/or under the RIGHT-OF-WAY, oil and sewer lines, and other facilities, in such manner as not to create an unreasonable interference with the use of the RIGHT-OF-WAY.
23. The United States reserves to itself the right to use, occupy, and traverse any and all areas, other than those specified in Section 11 of these General Requirements, on, over, across, and along the RIGHT-OF-WAY with personnel and vehicles for any purpose including, but not limited to, military uses, at the discretion of the INSTALLATION COMMANDER.
24. Any authorized use or occupation of the subject military lands in connection with the PRE-CONSTRUCTION, construction, OPERATION or termination of the PIPELINE shall be subject to such rules and regulations as the installation commanders may from time to time prescribe. The military departments reserve the right to modify or change conditions to protect military interests as circumstances may from time to time warrant.
25. Transportation, storage and use of explosives during PRE-CONSTRUCTION, construction, OPERATION or termination of the PIPELINE shall be permitted only in conformance with the applicable installation regulations. The HOLDER shall secure copies of these regulations from the installation commanders. Use of all explosives on military reservations shall be in strict conformance with U.S. Army, Corps of Engineers Safety Manual, and the HOLDER shall secure copies of this manual from the INSTALLATION COMMANDER. The HOLDER shall submit a plan for approval to the INSTALLATION COMMANDER at least thirty (30) days in advance of any underwater blasting. The plan shall set forth blasting locations, types and amounts of explosives, date or dates of blasting, and the reason for blasting.

26. The HOLDER shall locate and/or install the PIPELINE in such manner so as to preclude the creation of ground fog and/or ice fog conditions which will in any way decrease the operational capability of the air fields located on Eielson Air Force Base, Fort Wainwright or Fort Greely. Studies or other data supporting the location or construction techniques utilized by the HOLDER to accomplish the requirements of this condition shall be submitted to the INSTALLATION COMMANDER for review and approval thirty (30) days prior to commencement of construction on the lands herein described.
27. Prior to commencement of PRE-CONSTRUCTION or construction, the HOLDER shall submit a schedule of their PRE-CONSTRUCTION and construction activities on the military installation involved. This schedule shall be in such detail as may be required by the INSTALLATION COMMANDER and during the course of construction this schedule shall be updated and resubmitted as may be required by the INSTALLATION COMMANDER.

EXHIBIT D

Requirements of the National Oceanic and Atmospheric
Administration Relating to that Agency's Installation

NOAA Specific Stipulations for Gas Pipeline

The objective of these stipulations is to minimize interference with current tracking station operations and to preserve the integrity of the site and its buffer zone for future electromagnetically sensitive operations. These STIPULATIONS are in addition to the STIPULATIONS in Exhibit B of the GRANT of RIGHT-OF-WAY to the Yukon Pacific Corporation (referred to as the HOLDER).

1. The point of contact for all activities on the station shall be the NOAA Station Director; however, any provision in the STIPULATIONS in Exhibit B requiring communications with or through the AUTHORIZED OFFICER or his representative shall be controlling.
2. The PIPELINE route shall be as indicated on the Goddard Space Flight Center Drawing No. 1346809, Revision D, dated November 20, 1980, on file with the Department of the Interior and the HOLDER and incorporated herein by reference.
3. The words "existing communications systems" in paragraph 1.16. Electronically Operated Devices, of Exhibit B, STIPULATIONS, shall be construed to include, without limitation, NOAA tracking and command space communication systems.
4. Access to work areas shall be through the RIGHT-OF-WAY from roads off the station unless otherwise approved by the NOAA Station Director on a case-by-case basis. The HOLDER shall implement traffic control measures at the station entrance road near Steese Highway to redirect PIPELINE-related traffic to the RIGHT-OF-WAY. Pilots overflying the PIPELINE route shall avoid unnecessary maneuvers within sight of the antennas.
5. The HOLDER shall provide a separate legal description of the RIGHT-OF-WAY as constructed in each noncontiguous tract of NOAA land within 90 days of laying pipe, and shall provide as-built drawings of all engineering features within 180 days of completion of construction in the station RIGHT-OF-WAY. The same provisions shall apply to work performed during subsequent maintenance, retrofit, or modification of the PIPELINE or its associated facilities in the station vicinity.
6. The United States reserves to itself the right to construct, use, and maintain across (over and/or under the RIGHT-OF-WAY) fuel and utility lines and other facilities in such manner as not to create an unreasonable interference with use of the RIGHT-OF-WAY.

7. All personnel authorized to enter the station shall observe security procedures, administrative regulations, and management instructions applicable to the station.

APPENDIX G-7

State of Alaska
Conditional ROW Lease

TAGS Conditional Lease
ADL 413342
December 10, 1988

CONDITIONAL
RIGHT-OF-WAY LEASE FOR THE TRANS-ALASKA GAS SYSTEM

ADL 413342

This CONDITIONAL LEASE is entered into and made effective
this 10 day of December, 1988.

by the STATE OF ALASKA
acting through the Commissioner of the
Department of Natural Resources,

and by YUKON PACIFIC CORPORATION
whose address is
900 West Fifth Avenue, Suite 730,
Anchorage, Alaska 99501.

Note: Terms having special meaning are capitalized and are defined in Section 10 of this CONDITIONAL LEASE as well as incorporated by reference to Exhibit A, "Right-of-Way Lease for the Trans-Alaska Gas System, ADL 413342" (LEASE).

Section 1. CONDITIONAL LEASE.

Pursuant to AS 38.35 and the regulations promulgated thereunder, the COMMISSIONER has determined that the proposed CONDITIONAL Right-of-Way LEASE by the applicant, Yukon Pacific Corporation, is in the public interest provided that the terms and conditions of the CONDITIONAL LEASE are met. The requisite determinations required by the aforesaid statutes and regulations are contained in the administrative record of ADL 413342.

If the terms and conditions set forth in this CONDITIONAL LEASE are met within the specified time limits and prior to termination or revocation of this CONDITIONAL LEASE, it is the COMMISSIONER's decision that the LEASE attached as Exhibit A would be consistent with the public interest and will be granted subject to the provisions of AS 38.35.100.

Therefore, the application for a CONDITIONAL Right-of-Way LEASE is granted subject to the conditions listed in Section 2. Evidentiary Requirements to Proceed to Final Lease.

Section 2. Evidentiary Requirements to Proceed to Final Lease

A. The CONDITIONAL LESSEE shall provide PIPELINE alignment location and RELATED FACILITY site locations plotted on available large scale maps, where feasible, or on large scale (1 inch = 1,000 feet or greater) aerial photographs for review and approval of the COMMISSIONER for the purpose of locating and describing the Right-of-Way on STATE LAND. In addition, where required by the COMMISSIONER, the CONDITIONAL LESSEE shall field stake specific portions of the PIPELINE alignment or RELATED FACILITY site locations to the satisfaction of the COMMISSIONER. This information shall be submitted by the COMMISSIONER to the owners or agents of the TRANS-ALASKA PIPELINE SYSTEM, other authorized OIL or GAS transportation pipeline(s), or other existing or proposed FACILITIES pursuant to AS 38.05.945 and AS 38.05.035(e) for the purpose of identifying what portions of the PIPELINE or RELATED FACILITIES are PROXIMATE to existing or proposed FACILITIES. Those portions identified by such owners as being PROXIMATE to the PIPELINE and RELATED FACILITIES shall be reviewed and approved by the COMMISSIONER.

B. The CONDITIONAL LESSEE shall submit evidence of financial commitment to the COMMISSIONER sufficient to design and construct the proposed Trans-Alaska Gas System project. Such evidence shall include letters of intent for GAS sales, letters of intent for GAS purchase, and written preliminary commitments for construction financing. Additional evidence may include financial plans, a summary of project economics, and any other financial information as may be required by the COMMISSIONER.

C. The CONDITIONAL LESSEE shall submit the following technical information relating to the Trans-Alaska Gas System project:

(1) Project Development Schedule.

a. The CONDITIONAL LESSEE shall submit a Project Development Schedule to the COMMISSIONER for review. The Project Development Schedule shall address, at a minimum, the following:

1. sequence and approximate timing of all PRECONSTRUCTION activities;
2. submission of AUTHORIZATION-TO-PROCEED applications;
3. submission of all other permit applications;
4. environmental constraints on PRECONSTRUCTION scheduling; and,
5. submission of the items in Section 2. Evidentiary Requirements to Proceed to Final Lease.

b. The Project Development Schedule, required by Section 2.C.(1)a., shall be submitted with the scope and content to be MUTUALLY AGREED to by the COMMISSIONER and the CONDITIONAL LESSEE annually prior to September 1st for the purpose of preparing the State's budget for the subsequent fiscal year (July 1-June 30).

(2) Project Performance Standards. The CONDITIONAL LESSEE shall prepare and submit TAGS Project Performance Standards, to the COMMISSIONER for review and written approval, which shall define the envelope of constraints within which the DESIGN CRITERIA, FINAL DESIGN, CONSTRUCTION, OPERATION, and TERMINATION activities of the project will occur. The

COMMISSIONER and the CONDITIONAL LESSEE shall MUTUALLY AGREE upon the scope, content and schedule for submission of the Project Performance Standards.

(3) Project Plans and Programs

a. The CONDITIONAL LESSEE shall submit the following Project Plans and Programs to the COMMISSIONER for review and approval (such plans and programs may be combined and/or cross-referenced where appropriate):

1. Air Quality Permit Identification
2. Blasting
3. Camps
4. Cultural Resource Preservation
5. Environmental Briefings
6. Erosion and Sedimentation Control
7. Fire Control
8. Liquid Waste Management
9. Material Exploration and Extraction
10. OIL and HAZARDOUS SUBSTANCES Control, Cleanup, Disposal
11. Pesticides, Herbicides, Chemicals
12. Quality Assurance/Quality Control
13. RESTORATION
14. Solid Waste Management
15. Stream, River and Floodplain Crossings
16. Human-Carnivore Interaction
17. ACCESS ROADS, including Snow/Ice
18. Compressor Station Siting
19. Equipment and Material Storage
20. Water Quality
21. Noise
22. Road Proximity/Crossing
23. Pipeline Proximity/Crossing
24. Subsistence Resource Protection
25. Public Health, Safety, Welfare
26. Local Hire, Manpower Training, Alaska Business Utilization
27. Socioeconomic Impacts

b. The COMMISSIONER will review for approval the scope, content and schedule for submission of the Project Plans and Programs required in Section 2.C.(3).a.

c. The Project Plans and Programs listed in Section 2.C.(3).a. may be updated at intervals MUTUALLY AGREED upon by the CONDITIONAL LESSEE and the COMMISSIONER.

d. The Project Plan addressing, in part, local hire and manpower training, as required by Section 2.C.(3).a.26, shall include, at a minimum, job identification, job classes, training programs, job certification, where appropriate, and assurances of local hiring opportunities for qualified persons.

e. The Project Plans and Programs or specific Project Performance Standards listed in Sections 2.C.(2) and 2.C.(3) that may affect FACILITIES that are PROXIMATE to the proposed Trans-Alaska Gas System alignment, such as the TRANS-ALASKA PIPELINE SYSTEM, other authorized OIL or GAS transportation pipeline(s), PUBLIC

ROADS/HIGHWAYS, or the FACILITIES of other third party owners with valid existing rights on STATE LAND, shall be coordinated by the LESSEE with the respective owners. Evidence of coordination with such owners shall accompany the submission of applicable Project Performance Standards and the Project Plans and Programs.

(4) **CONCEPTUAL DESIGN.** Prior to being granted a LEASE, the CONDITIONAL LESSEE shall provide CONCEPTUAL DESIGN for the PIPELINE and RELATED FACILITIES for review and written approval of the COMMISSIONER. The COMMISSIONER and the CONDITIONAL LESSEE shall MUTUALLY AGREE upon the scope, content and schedule for submission of the CONCEPTUAL DESIGN.

(5) **Lease Amendments Required for Project Definition**

a. **Gas Conditioning Facility.** The CONDITIONAL LESSEE shall determine the means by which it will obtain GAS for transport. The CONDITIONAL LESSEE will provide letters of intent for GAS purchase agreements if the CONDITIONAL LESSEE will not be constructing and operating a Gas Conditioning Facility. If the CONDITIONAL LESSEE has determined that it will construct and operate a Gas Conditioning Facility, the CONDITIONAL LESSEE shall submit the following:

1. an application for amendment to the CONDITIONAL LEASE as a RELATED FACILITY authorized by AS 38.35;
2. suitable Project Performance Standards, as required by Section 2.C.(2);
3. a Gas Conditioning Facility project plan;
4. a CONCEPTUAL DESIGN as required by Section 2.C.(4);
5. location of the Gas Conditioning Facility site as required by Section 2.A.

b. **ACCESS ROADS.** The CONDITIONAL LESSEE shall determine the location of ACCESS ROADS required for the project and shall submit the following:

1. an application for amendment to the CONDITIONAL LEASE as a RELATED FACILITY authorized by AS 38.35;
2. suitable Project Performance Standards as required by Section 2.C.(2);
3. an ACCESS ROADS plan as required by Section 2.C.(3)a.17;
4. a CONCEPTUAL DESIGN as required by Section 2.C.(4);
5. location of the proposed ACCESS ROADS as required by Section 2.A.

c. **Other Amendment.** The addition of other RELATED FACILITIES, the locations of which are not identified yet, including but not limited to communication sites and spoil and WASTE disposal sites, or any substantial re-locations of any RELATED FACILITIES or substantial re-alignments of the PIPELINE shall require amendment to this CONDITIONAL LEASE.

(6) Specific Reports for Protection of the Public Interest

- a. Yukon River Bridge.** The CONDITIONAL LESSEE shall submit a report to the COMMISSIONER for review and approval that addresses, at a minimum, the basis for siting and impacts and alternatives related to CONSTRUCTION of a new bridge or use of the existing Yukon River bridge. The scope and content of the report shall be approved by the COMMISSIONER. Additionally, the CONDITIONAL LESSEE shall submit a CONCEPTUAL DESIGN for the Yukon River crossing.
- b. Salcha River/Compressor Station #7 Siting.** The CONDITIONAL LESSEE shall submit a report to the COMMISSIONER for review and approval that addresses, at a minimum, Compressor Station #7 siting, access to the PIPELINE and RELATED FACILITIES, material requirements, and identification of peregrine falcon nest sites in the Salcha River area. With respect to Compressor Station #7, the CONDITIONAL LESSEE shall address the basis for siting, alternative siting, noise levels anticipated on and adjacent to the Salcha River (including noise levels expected during winter conditions to -40 degrees F) that may impact recreation or private property, and mitigation of any impacts. The CONDITIONAL LESSEE shall address the identification of peregrine falcon nest sites with respect to Compressor Station #7 for consistency with federal protection measures for siting of permanent FACILITIES or with the Alaska Peregrine Falcon Recovery Plan. The scope and content of the report shall be approved by the COMMISSIONER.
- c. Summit/Fielding Lakes--Phelan Creek to One Mile Creek.** The CONDITIONAL LESSEE shall submit a report to the COMMISSIONER for review and approval that addresses, at a minimum, the basis for siting, alternative routing along the east side of Summit Lake, negative versus positive impacts of the PIPELINE route on the west side of Summit Lake from Phelan Creek to the proposed Richardson Highway crossing south of One Mile Creek, and the upper Gulkana River crossing. With respect to the Gulkana River, the CONDITIONAL LESSEE shall demonstrate protection of fisheries resources including minimization of siltation, protection of water supply for the fish incubation facility, and minimization of altered groundwater or surface flow or altered temperature of such flows. The scope and content of the report shall be approved by the COMMISSIONER. Additionally, the CONDITIONAL LESSEE shall submit CONCEPTUAL DESIGN for the PIPELINE from, and including, the upper Gulkana River crossing south to the proposed Richardson Highway crossing.
- d. Hogan Hill/Compressor Station #9/Sourdough Creek Construction Camp Siting.** The CONDITIONAL LESSEE shall submit a report to the COMMISSIONER for review and approval that addresses, at a minimum, the basis for siting, alternative siting of FACILITIES, and identification of impacts and proposed mitigation, including scheduling of PRECONSTRUCTION, CONSTRUCTION, OPERATION, and TERMINATION activities, relating to movements of the Nelchina Caribou Herd. The scope and content of the report shall be approved by the COMMISSIONER.
- e. Lowe River/Canyon Slough Complex.** The CONDITIONAL LESSEE shall submit a report to the COMMISSIONER for review and approval that addresses, at a minimum, the basis for siting, alternative routing, the specific impacts of crossing the Canyon Slough complex, and specific mitigation measures to be incorporated into planning and design.
- f. Lowe River/Keystone Canyon.** The CONDITIONAL LESSEE shall submit a report to the COMMISSIONER for review and approval addressing, at a minimum, geologic hazards present in Keystone Canyon (including outburst floods from Sheep Creek), the proximity of

the Richardson Highway, the basis for siting, alternative routing and proposed mitigation. The scope and content of the report shall be approved by the COMMISSIONER. Additionally, the CONDITIONAL LESSEE shall submit CONCEPTUAL DESIGN for the PIPELINE route through Keystone Canyon.

g. The CONDITIONAL LESSEE shall submit a report to the COMMISSIONER for review and approval that addresses the Marine Terminal and public marine access within Anderson Bay.

h. The CONDITIONAL LESSEE shall submit a report to the COMMISSIONER for review and approval addressing the impact of PRECONSTRUCTION and CONSTRUCTION activities on tourism in the Valdez area, including a consideration of the impact such activities would have on highway travel through Keystone Canyon.

(7) Specific Agreements for Protection of the Public Interest

a. **PUBLIC ROADS/HIGHWAYS.** The CONDITIONAL LESSEE shall agree to reimburse the STATE for damages to PUBLIC ROADS/HIGHWAYS or airports due to construction and/or overweight loads utilized by the CONDITIONAL LESSEE during PRECONSTRUCTION, CONSTRUCTION, OPERATION, and TERMINATION of the PIPELINE SYSTEM.

Section 3. Nature of Interest.

A. This CONDITIONAL LEASE conveys no interest in land, property or resources of the STATE, or any preference or priority rights to a particular right-of-way or alignment. The issuance of a CONDITIONAL LEASE does not prevent the COMMISSIONER from issuing other conditional or final leases for the same Right-of-Way. No CONSTRUCTION activities are authorized by this CONDITIONAL LEASE. Upon receiving an application for any other conditional right-of-way lease or authorization that would vest a property right, for the same right-of-way, the Department of Natural Resources shall consult with the CONDITIONAL LESSEE and offer an opportunity to comment. Such comments shall be given due deference to the same degree as a State agency in the Department of Natural Resources' deliberations as to whether that application is in the best interest of the STATE.

B. Any future administrative decision made by the State of Alaska that affects the title to the property described by this CONDITIONAL LEASE is subject to administrative and legal appeal made pursuant to State statutes.

C. This CONDITIONAL LEASE applies to the proposed Right-of-Way on STATE LAND for a PIPELINE and RELATED FACILITIES as generally located and described by the documents listed in Exhibit C of the LEASE (Exhibit A) the purpose of which is for the PRECONSTRUCTION, CONSTRUCTION, OPERATION, and TERMINATION of one (1) 36-inch diameter natural GAS transportation PIPELINE and RELATED FACILITIES. The width of the proposed Right-of-Way shall not exceed 1,000 feet, 500 feet on either side of the proposed centerline, except where the dimensions of the Right-of-Way shall accommodate the LNG Plant and Marine Terminal, and compressor stations, and shall accommodate any other RELATED FACILITIES outside the boundaries of the proposed Right-of-Way that are authorized by amendment to this LEASE. Subsequent to submission of the alignment/location maps and aerial photographs required by Section 2.A of the CONDITIONAL LEASE, the Right-of-Way boundaries shall be 500 feet on either side of the proposed PIPELINE centerline and the proposed boundaries established for the RELATED FACILITIES.

D. PRECONSTRUCTION activities may be authorized under this CONDITIONAL LEASE. Prior to initiating any field activity on STATE LAND pursuant to this CONDITIONAL LEASE, the CONDITIONAL LESSEE must possess a valid AUTHORIZATION-TO-PROCEED issued by the COMMISSIONER. Each AUTHORIZATION-TO-PROCEED shall authorize only PRECONSTRUCTION field activities specific to that permit. An AUTHORIZATION-TO-PROCEED may contain such site-specific terms and conditions as the COMMISSIONER finds necessary to implement the provisions of this CONDITIONAL LEASE, and the CONDITIONAL LESSEE shall comply in all respects with the provisions of the AUTHORIZATION-TO-PROCEED. Each application for an AUTHORIZATION-TO-PROCEED shall be accompanied by the following:

- (1) a description of the proposed activity and its location, including access routes;
- (2) scaled maps or drawings depicting the exact location of the proposed activities, PROXIMATE existing FACILITIES of third party owners with valid existing rights on STATE LAND, including the TRANS-ALASKA PIPELINE SYSTEM, drainages, trails, or other access routes, and other pertinent information sufficient for identification of potential conflicts with existing land uses and state and private property interests;
- (3) proposed measures for prevention of significant adverse environmental impact;
- (4) proposed RESTORATION procedures for areas of surface disturbance;
- (5) proposed measures for protecting subsistence resources and their uses in the vicinity of the proposed activity;
- (6) a separate analysis of the effects of the proposed activity and written evidence of coordination with any third party owners with valid existing rights on STATE LAND, including the TRANS-ALASKA PIPELINE SYSTEM, or other authorized OIL or GAS transportation pipeline whose FACILITIES are PROXIMATE to such PRECONSTRUCTION activities.

Section 4. Duration of CONDITIONAL LEASE.

A. This CONDITIONAL LEASE and all rights associated with this CONDITIONAL LEASE or with the COMMISSIONER's finding pursuant to AS 38.35.100(b) shall automatically terminate at midnight on the first day following ten (10) years from the date of signature of this CONDITIONAL LEASE, or unless prior to that date it is relinquished, abandoned or otherwise terminated pursuant to the provisions of this CONDITIONAL LEASE or any applicable laws or regulations, or unless by that time the COMMISSIONER has determined in a written finding that the CONDITIONAL LESSEE is fit, willing and able to perform the transportation or other acts proposed in a manner that will be required by the present and future public interest, in a manner consistent with the conditions set out herein and with the applicable laws which are then in effect.

B. Upon request of the CONDITIONAL LESSEE, the COMMISSIONER may renew the CONDITIONAL LEASE as long as the CONDITIONAL LESSEE is in full compliance with the provisions of this CONDITIONAL LEASE and State and Federal laws.

C. This CONDITIONAL LEASE may be revoked by order of the COMMISSIONER, without compensation, at any time the COMMISSIONER determines that the applicant or CONDITIONAL LESSEE will not be fit, willing and able to perform during the ten (10) year term of this lease or whenever another applicant or conditional lessee is determined to be fit, willing, and able to perform under an application or lease of all or part of the Right-of-Way.

D. Upon expiration, relinquishment, abandonment, or other TERMINATION, the provisions of this CONDITIONAL LEASE, intended for the benefit of the STATE and the public, shall continue in effect and shall be binding on the CONDITIONAL LESSEE, or the CONDITIONAL LESSEE's successors and assigns, until the CONDITIONAL LESSEE has fully performed its respective obligations and liabilities accruing before or on account of the expiration, relinquishment, abandonment, or other TERMINATION of the CONDITIONAL LEASE.

E. Prior to expiration, relinquishment, abandonment, or other TERMINATION of the CONDITIONAL LEASE, the CONDITIONAL LESSEE shall remove all temporary and permanent improvements from STATE LAND and shall RESTORE such land, unless otherwise approved by the COMMISSIONER, within a time period specified by the COMMISSIONER.

Section 5. Transfer, Assignment or other Disposition.

A. The CONDITIONAL LESSEE will not transfer, assign, pledge, or dispose of in any manner, directly or indirectly, or by transfer of control of the CONDITIONAL LESSEE, its interest in this CONDITIONAL LEASE, or any rights under this CONDITIONAL LEASE or any rights to the PIPELINE SYSTEM subject to this CONDITIONAL LEASE to any person, except to the extent that the COMMISSIONER authorizes, in a written finding substantiating a decision to allow the transfer, after consideration of protection of the public interest. The CONDITIONAL LESSEE shall not allow the transfer of control of or redistribution of interests in the CONDITIONAL LESSEE without the approval of the COMMISSIONER; as used in this Subsection "transfer of control of the CONDITIONAL LESSEE" means 30 percent or more, in aggregate, of ownership interest in the CONDITIONAL LESSEE in one or more transactions, to one or more persons, by one or more persons. The COMMISSIONER shall not unreasonably withhold consent to the transfer, assignment or disposal. An unapproved transfer does not relieve the CONDITIONAL LESSEE of an obligation assumed under the CONDITIONAL LEASE, is ineffective to transfer interests in and obligations under the CONDITIONAL LEASE, and constitutes a default under the CONDITIONAL LEASE.

B. With respect to any request for transfer under Section 5.A., the COMMISSIONER shall consider whether the proposed transferee will be fit, willing and able to perform the transportation of natural GAS proposed under the terms and conditions established in the CONDITIONAL LEASE and whether the transfer is in the public interest. The COMMISSIONER may impose additional terms and conditions on the transferee that the COMMISSIONER considers in the public interest.

C. A transfer, pursuant to Section 5.A., in whole or in part, of the CONDITIONAL LESSEE's right, title and interest in the Right-of-Way and this CONDITIONAL LEASE shall constitute a release of the CONDITIONAL LESSEE's liabilities and obligations (accrued, contingent or otherwise) to the STATE under this CONDITIONAL LEASE only to the extent and limit that the transferee unconditionally assumes with permission of the COMMISSIONER the performance and observance of each such liability and obligation, and provides bonding and insurance to assure such performance and observance of such liabilities and obligation.

Section 6. Indemnification and Liability

A. The indemnification and liability terms and conditions in Sections 7 and 8 of the LEASE (Exhibit A) are hereby incorporated into and made part of the CONDITIONAL LEASE.

Section 7. Bonding

- A. Initially, the CONDITIONAL LESSEE shall furnish the STATE a surety bond or other security of such type and on such terms and conditions as are acceptable to the COMMISSIONER, in the principal amount of one hundred fifty thousand dollars (\$150,000). Prior to issuance of the first AUTHORIZATION-TO- PROCEED, the CONDITIONAL LESSEE shall furnish such bonding to the STATE, as acceptable to the COMMISSIONER, in the principal amount of one million dollars (\$1,000,000). Said bond or other security shall be maintained in force and effect in the full principal amount, or in such reduced amount as may be approved by the COMMISSIONER, at all times during the term of the CONDITIONAL LEASE and until released in writing by the COMMISSIONER. Such release will not be unreasonably withheld upon expiration of the terms of this CONDITIONAL LEASE, including any renewals of this CONDITIONAL LEASE, and completion of the CONDITIONAL LESSEE's obligations under this CONDITIONAL LEASE and applicable law.
- B. Said bond or other security shall be security for payment of any sums owing to the STATE pursuant to the provisions of Section 12, Right of the STATE to Perform, of the LEASE (Exhibit A).
- C. These requirements are in addition to all other requirements of law, and are not intended to affect, nor are they intended to limit in any way, the CONDITIONAL LESSEE's liability under any provisions of law.
- D. The COMMISSIONER reserves the right to require additional security from the CONDITIONAL LESSEE if at any time the COMMISSIONER determines it necessary in connection with the CONSTRUCTION, OPERATION or TERMINATION of the PIPELINE SYSTEM.

Section 8. Insurance

- A. Without limiting CONDITIONAL LESSEE's indemnification, the CONDITIONAL LESSEE hereby agrees to provide and maintain in force throughout the term of this CONDITIONAL LEASE liability and property damage insurance from a company licensed to do business in the state or furnish other security or undertaking upon the terms and conditions the COMMISSIONER considers necessary if the COMMISSIONER finds that the net assets of the CONDITIONAL LESSEE are insufficient to protect the public from damage for which the CONDITIONAL LESSEE may be liable arising out of the PRECONSTRUCTION, CONSTRUCTION, OPERATION or TERMINATION of the PIPELINE, such as: comprehensive general liability including premises, operations, independent contractors, products and completed operations liability including contractual liability covering the CONDITIONAL LESSEE's indemnification obligation under Section 7 of the LEASE (Exhibit A), broad form property damage, pollution liability, explosion, collapse and underground (XCU), and fire legal liability endorsements, owned and non-owned (leased or hired) automobile, aircraft and watercraft liability, and architect and engineer professional errors and omissions. Coverage shall, to the reasonable satisfaction of the COMMISSIONER, insure the CONDITIONAL LESSEE's liabilities for accidental occurrences imposed on it by operation of the requirement for indemnification of the STATE contained in this CONDITIONAL LEASE. Coverage shall be obtained from a carrier with a rating acceptable to the COMMISSIONER and shall be on an "occurrence" basis. The STATE shall be added to the above-described policies as an additional insured with respect to such liabilities. Initially, coverage shall be in the minimal amount of five million dollars (\$5,000,000) per occurrence. Prior to the issuance of the first AUTHORIZATION-TO-PROCEED, coverage shall be in the minimal amount of \$150 million (\$150,000,000) combined single limit per occurrence.
- B. In addition, the CONDITIONAL LESSEE shall provide and maintain, for all employees of the CONDITIONAL LESSEE engaged in work under this CONDITIONAL LEASE, Workers' Compensation Insurance as required by AS 23.30. The CONDITIONAL LESSEE shall be responsible for Workers' Compensation Insurance for any contractor or subcontractor who directly or indirectly provides services under

this CONDITIONAL LEASE. This coverage must include employer's liability protection not less than \$1,000,000 per occurrence. The insurer shall agree to waive all rights of subrogation against the STATE, its officers, agents, and employees for losses arising from the leased premises.

C. Certificates of insurance must be furnished to the COMMISSIONER. The required insurance is subject to annual review and adjustment by the COMMISSIONER, who may require reasonable increases based on increased risk.

D. The CONDITIONAL LESSEE's insurance coverage shall be primary insurance as respects the STATE, its officers, agents and employees. Any insurance or self insurance maintained by the STATE shall be excess of the CONDITIONAL LESSEE's insurance and shall not contribute with it.

Section 9. Incorporation by Reference of Terms and Conditions; Changes in Conditions

A. The terms and conditions as referenced below that are to be imposed on the LESSEE in the LEASE are hereby imposed on the CONDITIONAL LESSEE and are incorporated into and made a part of the CONDITIONAL LEASE. Where the terms and conditions reference LESSEE and LEASE in the "Right-of-Way Lease for the Trans-Alaska Gas System" (Exhibit A), they mean CONDITIONAL LESSEE and CONDITIONAL LEASE in the CONDITIONAL LEASE.

- | | | |
|------|--------------------|--|
| (1) | Section 5 | Reservation of Certain Rights to the STATE |
| (2) | Section 12 | Right of the STATE to Perform |
| (3) | Section 13 | Books, Accounts and Records; Access to Property and Records |
| (4) | Section 14 | Appointment of Agent for Service of Process |
| (5) | Section 15 | Reimbursement of STATE Expenses |
| (6) | Section 16 | Prevention and Abatement |
| (7) | Section 18 | Orders, Notices and Other Documents |
| (8) | Section 19 | Compliance with ATP/NTP AUTHORIZATIONS |
| (9) | Section 20 | Temporary Suspension Orders |
| (10) | Section 21 | Appeal Procedure |
| (11) | Section 23 | Involuntary termination of Lease;
Breaches, excluding Section 23.A. |
| (12) | Section 24 | Prevalence of Law |
| (13) | Section 25 | Remedies Cumulative; Equitable Relief |
| (14) | Section 26 | Waiver Not Continuing |
| (15) | Section 27 | Rights of Third Parties |
| (16) | Section 28 | LEASE Not a Waiver of Any State Statutory Regulatory Power |
| (17) | Section 29 | Section Headings |
| (18) | Section 32 | Partial Invalidity |
| (19) | STIPULATION 1.1 | Definitions |
| (20) | STIPULATION 1.2 | Responsibilities |
| (21) | STIPULATION 1.3 | Authority of Representatives of
the COMMISSIONER and of Agent of the LESSEE |
| (22) | STIPULATION 1.4 | Field Activities |
| (23) | STIPULATION 1.11 | Quality Assurance and Control |
| (24) | STIPULATION 1.12 | Surveillance and Maintenance |
| (25) | STIPULATION 1.13 | Public and Private Improvements |
| (26) | STIPULATION 1.14 | Health and Safety |
| (27) | STIPULATION 1.15 | Survey Requirements |
| (28) | STIPULATION 1.16.1 | Public Access |
| (29) | STIPULATION 1.17 | Fire Prevention and Suppression |
| (30) | STIPULATION 1.18 | Communications |

- (31) STIPULATION 1.19 Cultural Resources
- (32) STIPULATION 1.20 Hunting, Fishing, Trapping
- (33) STIPULATION 1.21 Changes in Conditions
- (34) All of Section 2, Environmental STIPULATIONS
- (35) All of Section 3, Technical STIPULATIONS

B. If there is a significant change in the conditions which necessitates additional terms to protect the public interest, the COMMISSIONER may require the CONDITIONAL LESSEE to agree to additional terms that the COMMISSIONER finds to be in the public interest prior to conversion to a LEASE.

Section 10. Definition of Terms

Terms having special meaning in this CONDITIONAL LEASE document and in those provisions of the LEASE document that are incorporated into and made part of the CONDITIONAL LEASE as referenced in Section 10 are capitalized and are defined in this Section and in STIPULATION 1.1, "Definitions" (Exhibit A of the LEASE).

- A. COMMISSIONER means the Commissioner of the Department of Natural Resources, State of Alaska, or the Commissioner's appointed designee(s).
- B. CONDITIONAL LEASE means the instrument conditionally granting a Right-of-Way for pipeline purposes pursuant to AS 38.35 to the CONDITIONAL LESSEE, but granting no rights, including preference or priority.
- C. CONDITIONAL LESSEE means Yukon Pacific Corporation or its respective successors or assigns as authorized pursuant to Section 5 of the CONDITIONAL LEASE.
- D. LEASE means (1) an instrument granting a leasehold interest in the Right-of-Way for the Trans-Alaska Gas System to Yukon Pacific Corporation for the purpose of PRECONSTRUCTION, CONSTRUCTION, OPERATION, and TERMINATION of the PIPELINE pursuant to AS 38.35, and (2) Exhibit A, "Right-of-Way Lease for the Trans-Alaska Gas System, ADL 413342 (unsigned).

Section 11. Exhibits

Exhibit A: Right-of-Way Lease for the Trans-Alaska Gas System, ADL 413342 (LEASE--unsigned).

Section 12. Authority to Enter Agreement

The CONDITIONAL LESSEE represents and warrants to the STATE that it is duly authorized and empowered under the applicable laws of the State of Alaska to enter into and perform this CONDITIONAL LEASE in accordance with the provisions of this CONDITIONAL LEASE.

Section 13. Partial Invalidity

If any part of this CONDITIONAL LEASE is held invalid or unenforceable, the remainder of this CONDITIONAL LEASE shall not be affected and shall be valid and enforced to the fullest extent permitted by law.

Section 14. Acceptance of LEASE

The CONDITIONAL LESSEE's execution of this CONDITIONAL LEASE signifies acceptance of the terms and conditions contained herein. Such acceptance constitutes an agreement between the CONDITIONAL LESSEE and the STATE that the LESSEE, together with the CONDITIONAL LESSEE's respective agents, employees, contractors and subcontractors (at any tier), shall comply with all terms and conditions contained in the CONDITIONAL LEASE and all applicable laws and regulations.

IN WITNESS WHEREOF, the parties hereto have duly executed this CONDITIONAL LEASE as of the first written date.

STATE OF ALASKA

YUKON PACIFIC CORPORATION

By: 

Judith M. Brady
COMMISSIONER
Department of Natural Resources

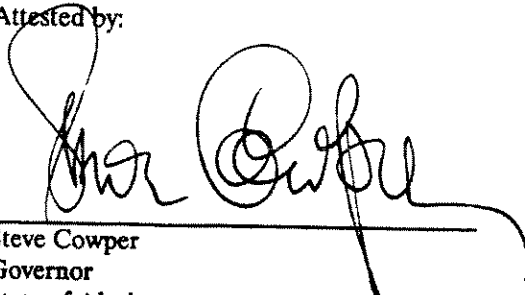
By: 

Howard D. Griffith
President and Chief Executive Officer
YUKON PACIFIC CORPORATION

Date: Dec. 10, 1988

Date: Dec. 10, 1988

Attested by:


Steve Cowper
Governor
State of Alaska

State of Alaska)
) ss
)

The foregoing instrument was acknowledged before me this 10th day of December, 1988, by
Howard D. Griffith, President of YUKON PACIFIC CORPORATION.

Betty D. Ackerson
Notary Public in and for the State of Alaska
My Commission Expires: February 23rd, 1991

STATE OF ALASKA)
) ss
Third Judicial District)

THIS IS TO CERTIFY that on this 10th day of December, 1988, before me
personally appeared Judith M. Brady, the COMMISSIONER of the Department of
Natural Resources of the State of Alaska, who executed the foregoing instrument and acknowledged voluntarily
signing the same.

Betty D. Ackerson
Notary Public in and for the State of Alaska
My Commission Expires: February 23rd, 1991

TAGS Lease
ADL 413342
December 10, 1988

**RIGHT-OF-WAY LEASE
FOR THE
TRANS-ALASKA GAS SYSTEM**

**State of Alaska
Department of Natural Resources
Division of Land and Water Management
State Pipeline Office**

TABLE OF CONTENTS

Section 1. Grant of Right-of-Way.....	1
Section 2. Duration of Right-of-Way.....	3
Section 3. Transfer, Assignment, or Other Disposition.....	3
Section 4. Right-of-Way Rental.....	4
Section 5. Reservation of Certain Rights to the STATE.....	4
Section 6. Common Carrier Covenants.....	5
Section 7. Indemnification of the STATE.....	6
Section 8. Liability.....	6
Section 9. Bonding.....	7
Section 10. Insurance.....	7
Section 11. Additional Security, Undertaking or Guarantee.....	8
Section 12. Right of the STATE to Perform.....	9
Section 13. Books, Accounts and Records; Access to Property and Records.....	9
Section 14. Appointment of Agent for Service of Process.....	10
Section 15. Reimbursement of STATE Expenses.....	10
Section 16. Prevention and Abatement.....	12
Section 17. Release of Right-of-Way Interest.....	12
Section 18. Orders, Notices and Other Documents.....	13
Section 19. Compliance with ATP/NTP AUTHORIZATIONS.....	13
Section 20. Temporary Suspension Orders.....	14
Section 21. Appeal Procedure.....	15
Section 22. TERMINATION Plans.....	16
Section 23. Involuntary Termination of LEASE; Breaches.....	16
Section 24. Prevalence of Law.....	16
Section 25. Remedies Cumulative; Equitable Relief.....	17

Section 26. Waiver Not Continuing	17
Section 27. Rights of Third Parties.....	17
Section 28. Lease Not a Waiver of Any STATE Statutory or Regulatory Power	17
Section 29. Section Headings	17
Section 30. Exhibits	17
Section 31. Authority to Enter Agreement.....	18
Section 32. Partial Invalidity.....	18
Section 33. Acceptance of LEASE	18
Exhibits.....	20

RIGHT-OF-WAY LEASE FOR THE TRANS-ALASKA GAS SYSTEM

ADL 413342

This LEASE is entered into and made effective
this ____ day of _____, 19____,
by the STATE OF ALASKA
acting through the Commissioner of the
Department of Natural Resources,

and by YUKON PACIFIC CORPORATION
whose address is
900 West Fifth Avenue, Suite 730
Anchorage, Alaska 99501.

Note: Terms having special meaning in this LEASE are capitalized and are defined in, Exhibit A, "Right-of-Way Lease Stipulations for the Trans-Alaska Gas System".

Section 1. Grant of Right-of-Way

A. Pursuant to the provisions of AS 38.35, the Alaska Right-of-Way Leasing Act, and for and in consideration of the annual rental fee prescribed in Section 4 hereof, and other considerations, and the covenants herein contained to be kept and performed on the part of the LESSEE and subject to the conditions and requirements of this LEASE document herein contained, the STATE hereby grants, subject to valid existing rights, to the LESSEE for the period of limited duration prescribed in Section 2 hereof and for the purpose prescribed in Section 1.C., a Right-of-Way for a PIPELINE and its RELATED FACILITIES, the width and location being subject to the provisions of Section 1.D. hereof, across, through and upon STATE LAND, including any interest owned or hereafter acquired, along the general route of the PIPELINE and RELATED FACILITY site locations as shown in Exhibit C hereof. The LEASE shall convey a Right-of-Way interest only in lands in which the STATE holds a property interest, including land selected by the STATE pursuant to Section 906 of the Alaska National Interest Lands Conservation Act. This Lease does not convey land or interests in land owned or administered by the University of Alaska or the Alaska Railroad. Although this LEASE applies to STATE LAND in which the Alaska Department of Transportation and Public Facilities has a interest or administers, the LESSEE must also secure the written permission of the Alaska Department of Transportation and Public Facilities to enter upon or use such lands.

B. The COMMISSIONER may, on a case-by-case basis, to the extent authorized by AS 38.35.130, delegate to the LESSEE the power to condemn real property and acquire leases, easements or rights-of-way on lands in the State required for right-of-way purposes for a pipeline subject to this LEASE. In applying for such authority, the LESSEE shall demonstrate that it has made good faith efforts to negotiate with the owner of the land or interest in land for acquisition or shall demonstrate that there is a good faith dispute as to whether a claimant of an interest in real property actually has an interest. In the event the delegation to condemn is issued, the

LESSEE shall acquire the real property or interests therein at its own expense, and shall immediately convey to the STATE without cost such interest as is acquired. The land, right-of-way or easement acquired under this Section, will form part of the land leased to the LESSEE, but rental may not be charged to the LESSEE by the STATE for interests acquired at the expense of the LESSEE.

C. The Right-of-Way shall be granted for the purpose of PRECONSTRUCTION, CONSTRUCTION, OPERATION and TERMINATION of one (1) 36-inch-diameter natural GAS transportation PIPELINE and its RELATED FACILITIES. The LESSEE shall not use the Right-of-Way or the land subject thereto for any other purpose and shall not locate or construct any other pipelines or other improvements within the Right-of-Way without prior written approval of the COMMISSIONER. The PIPELINE shall be used for only the transportation of natural GAS, and it shall not be used for any other purpose without the prior written approval of the COMMISSIONER. LESSEE shall not allow any person, or business entity, to use the Right-of-Way for the purpose set forth in this Subsection. Nothing in this Subsection is intended to excuse or preclude the LESSEE from complying with the provisions of this LEASE or to preclude the LESSEE from employing agents or contractors to effect PRECONSTRUCTION, CONSTRUCTION, OPERATION or TERMINATION of all or any part of the PIPELINE SYSTEM.

D. During the term of this LEASE, and prior to the submission of the survey required by this Subsection, the Right-of-Way boundaries shall be those boundaries established by Section 3.C. and the requirements of Section 2.A of the "Conditional Right-of-Way Lease for the Trans-Alaska Gas System, ADL 413342" (Exhibit B). Prior to submission of the first NOTICE-TO-PROCEED application, during the term of this LEASE and prior to the execution of the Release of Right-of-Way Interest required by Section 1.F., the Right-of-Way boundaries shall be established by a survey of the PIPELINE and RELATED FACILITIES conducted by the LESSEE to the standards required by the Department of Natural Resources and in consideration of industry practice.

E. All CONSTRUCTION activities shall be limited to a zone within the Right-of-Way which shall be specified by the COMMISSIONER and approved in writing concurrently with the issuance of specific NOTICE-TO-PROCEED AUTHORIZATIONS.

F. Within one year following the COMMISSIONING of the PIPELINE SYSTEM, the LESSEE shall execute and deliver to the STATE a Release of Right-of-Way Interest as specified in Section 17 for 1) those portions of the PIPELINE Right-of-Way that are not required for OPERATION of the PIPELINE SYSTEM that exceed fifty (50) feet on either side of the centerline of the PIPELINE, except at such locations where LESSEE has requested to retain a wider Right-of-Way from the COMMISSIONER, and 2) those portions of the RELATED FACILITIES which are not required for OPERATION of the PIPELINE SYSTEM shall be released as approved by the COMMISSIONER. The width of the Right-of-Way may exceed the limits set forth in this Subsection if approved by the COMMISSIONER in a written finding.

G. Within one year following the COMMISSIONING of the PIPELINE SYSTEM, the LESSEE shall provide an "as-built" survey and provide adequate monumentation of the PIPELINE and RELATED FACILITIES which has been conducted to standards required by the Department of Natural Resources for the purpose of locating and describing the Right-of-Way on STATE LAND. The LESSEE shall provide a final survey, approved by the COMMISSIONER, showing the final "as-built" location of the completed PIPELINE and RELATED FACILITIES, including the final locations of all buried and above-ground improvements, the cover depth to buried improvements, the centerline of the Right-of-Way, the boundaries of the Right-of-Way, and the relationship of the Right-of-Way to authorized pipelines and other FACILITIES or structures.

H. This LEASE is made subject to all applicable State and Federal laws and regulations, and those laws and regulations will be used in resolving questions of interpretation of this LEASE. This LEASE is subject to applicable and valid State laws and regulations regarding the hiring of residents in the State. Any conveyance, transfer or other disposition by the STATE of any right, title, or interest in STATE LAND or any part thereof,

burdened by and subservient to this LEASE, will, to the extent allowed, be subject to this Right-of-Way and the provisions of this LEASE, including the LESSEE's right to renew this LEASE under Section 2.B.

I. The terms and conditions imposed on the LESSEE by the "Conditional Right-of-Way Lease for the Trans-Alaska Gas System" (Exhibit B) are incorporated into and made part of this LEASE, including by reference Sections 2.C.(2), 2.C.(3), 2.C.(4), and 2.C.(7)a.

Section 2. Duration of Right-of-Way Grant

A. This LEASE shall come to an end and expire at 12:00 noon (Alaska Standard Time) thirty (30) years from the date of signature of this LEASE, unless prior to that date it is renewed, released, abandoned, or otherwise terminated pursuant to the provisions of this LEASE or any applicable laws or regulations.

B. Upon request of the LESSEE, the COMMISSIONER shall renew this LEASE for additional periods of up to ten (10) years each, as long as the PIPELINE SYSTEM is in commercial operation and the LESSEE is in full compliance with State and Federal laws, including but not limited to State laws pertaining to regulation and taxation of the PIPELINE and the terms and conditions of the LEASE.

C. Upon expiration, relinquishment, abandonment, or other TERMINATION, the provisions of this LEASE, intended for the benefit of the State and the public, shall continue in effect and shall be binding on the LESSEE, or the LESSEE's successors and assigns, until the LESSEE has fully performed its respective obligations and liabilities accruing before or on account of the expiration, relinquishment, abandonment, or other TERMINATION of the LEASE.

D. Prior to expiration, relinquishment, abandonment, or other TERMINATION of the LEASE, the LESSEE shall remove those improvements from STATE LAND and shall RESTORE such land as specified in Section 22 of this LEASE, unless otherwise approved by the COMMISSIONER, within a time period specified by the COMMISSIONER.

Section 3. Transfer, Assignment, or Other Disposition

A. The LESSEE will not transfer, assign, or dispose of in any manner, directly or indirectly, or by transfer of control of the LESSEE, its interest in this LEASE, or any rights under this LEASE or any rights to the PIPELINE SYSTEM subject to this LEASE to any person other than another owner of the PIPELINE SYSTEM (including subsidiaries, parents and affiliates of the owners), except to the extent that the COMMISSIONER, after consideration of protection of the public interest (including whether the proposed transferee is fit, willing, and able to perform the transportation or other acts proposed in a manner that will reasonably protect the lives, property and general welfare of the people of Alaska), authorizes; the COMMISSIONER shall not unreasonably withhold consent to the transfer, assignment or disposal.

B. A transfer, pursuant to Section 3.A, in whole or in part, of the LESSEE's right, title and interest in the Right-of-Way and this LEASE shall constitute a release of the LESSEE's liabilities and obligations (accrued, contingent or otherwise) to the STATE under this LEASE only to the extent and limit that the transferee unconditionally assumes with permission of the COMMISSIONER the performance and observance of each such liability and obligation and provides bonding and insurance to assure such performance and observance of such liabilities and obligation.

Section 4. Right-of-Way Rental

A. The LESSEE shall pay to the STATE annually and in advance a rental value for the Right-of-Way based upon an appraisal of the fair market rental value of the lands described in this LEASE, including tentatively approved and patented STATE LAND which shall conform to the standards of the Department of Natural Resources and shall be completed and approved by the COMMISSIONER within six (6) months of issuance of this LEASE. Subsequent to approval by the COMMISSIONER, the LESSEE shall pay to the STATE within 30 days the fair market value rent due. The first year's rent shall be calculated from the date of LEASE issuance which shall be the Anniversary Date in this Section.

B. Subsequent to new transfer of land from Federal to State ownership, the LESSEE shall pay to the State an annual rental value for the Right-of-Way based upon the new total acreage and the most current fair market value appraisal of the lands described by this LEASE, including tentatively approved and patented STATE LAND. The first annual rental payment under this Subsection shall commence on the next Anniversary Date. An additional payment is due on that Anniversary Date for the prorated rent payable for any lease year in which acreage is added to the LEASE.

C. Subsequent to the approval of a Release of Right-of-Way Interest as specified in Section 1.F and the required "as-built" survey as specified in Section 1.G, the LESSEE shall pay to the STATE an annual rental value for the Right-of-Way based upon the new total acreage and the most current appraisal of the fair market value of the lands described by this LEASE, including tentatively approved and patented STATE LAND. The first annual rental payment under this Subsection shall commence on the next Anniversary Date. In any lease year where a reduction in acreage occurs, the next year's payment will be reduced by the prorated rent of the lands released to the State for the lease year in which the release of right-of-way interest was approved. The LESSEE's subsequent rental payment obligations shall not commence until overpayments have been fully credited. LEASE rental overpayment in the last year of this LEASE will be prorated and refunded after expiration or termination of this LEASE.

D. The annual rental payment set forth in Sections 4.A, 4.B and 4.C is subject to adjustment at five-year intervals and changes or adjustments shall be based upon a reappraised fair market rental value of the land.

E. Rental payment due as required by this Section shall be tendered to the Department of Natural Resources, Division of Land and Water Management, 3700 Airport Way, Fairbanks, Alaska 99709. Checks or other payment shall be made payable to the Department of Revenue.

Section 5. Reservation of Certain Rights to the STATE

A. The STATE reserves and shall have a continuing and reasonable right of access to any part of the lands (including the subsurface of, and the air space above, such lands) that are subject to this LEASE, and a continuing and reasonable right of physical entry to any part of the PIPELINE SYSTEM, for inspection or monitoring purposes and for any other purpose or reason that is consistent with any right or obligation of the STATE under any law or regulation, this LEASE, or any other agreement, permit or authorization relating in whole or in part to all or any part of the PIPELINE SYSTEM. The right of access and entry shall extend to and be enjoyed by any authorized representative, contractor or subcontractor of the STATE (at any tier), and other persons as may be designated from time to time in writing by the COMMISSIONER.

B. The granting of this LEASE is subject to the express condition that the exercise of the rights and privileges granted under this LEASE will not unduly interfere with the management, administration, or disposal by the STATE of the land affected by this LEASE. The LESSEE agrees and consents to the occupancy and use by the STATE, its grantees, permittees, or other lessees of any part of the Right-of-Way not actually and necessarily occupied or required by the PIPELINE or RELATED FACILITIES for the full and safe utilization of the

PIPELINE and RELATED FACILITIES, for operations incident to land management, administration, or disposal.

C. The State of Alaska, hereby expressly saves, excepts and reserves out of the LEASE hereby made, unto itself, its lessees, successors, and assigns forever, all oils, gases, coal, ores, minerals, fissionable materials, geothermal waters, and fossils of every name, kind, or description, and which may be in or upon said lands above described, or any part thereof, and the right to explore the same for such oils, gases, coal, ores, minerals, fissionable materials, and fossils, and it also hereby expressly saves and reserves out of the grant hereby made, unto itself, its lessees, successors, and assigns forever, the right to enter by itself, its or their agents, attorneys, and servants upon said lands, or any part or parts thereof, at any and all times, for the purpose of opening, developing, drilling, and working mines or wells on these or other lands and taking out and removing therefrom all such oils, gases, coal, ores, minerals, fissionable materials and fossils, and to that end it further expressly reserves out of the grant hereby made, unto itself, its lessees, successors, and assigns forever, the right by its or their agents, servants and attorneys at any and all times to erect, construct, maintain, and use all such buildings, machinery, roads, pipelines, powerlines, and railroads, sink such shafts, drill such wells, remove such soil, and to remain on said lands or any part thereof for the foregoing purposes and to occupy as much of said lands as may be necessary or convenient for such purposes hereby expressly reserving to itself, its lessees, successors, and assigns, as aforesaid, generally all rights and power in, to, and over said land, whether herein expressed or not, reasonably necessary or convenient to render beneficial and efficient the complete enjoyment of the property and rights hereby expressly reserved. No rights shall be exercised by the STATE under this section until it complies with the provisions of AS 38.05.130.

D. There is reserved to the STATE the exclusive right to grant additional permits, leases or easements for rights-of-way or other uses to third parties for compatible uses on, or adjacent to, the lands subject to the Right-of-Way provided that such grants will not unreasonably interfere with the rights under this LEASE.

E. Before the STATE grants an additional right-of-way permit or lease for a compatible use as specified in Section 5.B and 5.D, the STATE will notify the LESSEE of its intentions and shall consult with LESSEE before taking final action in that regard. However, the decision to grant additional permits, leases, or easements for rights-of-way rests exclusively with the STATE.

Section 6. Common Carrier Covenants

A. The LESSEE will assume the status of and will perform all of its functions undertaken under the LEASE as a common carrier and will accept, convey, and transport without discrimination LNG quality GAS delivered to it for transportation from fields in the vicinity of the PIPELINE subject to the LEASE throughout its route both on STATE LAND obtained under the LEASE and on the other land in the State; however, a lessee who owns or operates a natural GAS pipeline subject to regulation either (1) under the Natural Gas Act (15 U.S.C. 717 et seq.) of the United States, or (2) by appropriate State or political subdivisions with respect to rates and charges for the sale of natural GAS, is, to the extent of that regulation, exempt from the common carrier requirement in this paragraph; it will accept, convey, and transport natural GAS in the pipeline without unjust or unreasonable discrimination in favor of one producer or person, including itself, as against another but will take the LNG quality GAS, delivered or offered, without unreasonable discrimination, as such issues may be duly determined by the Alaska Public Utilities Commission in accordance with its procedures.

B. (1) The LESSEE agrees to interchange LNG quality GAS with other intrastate carriers and provide connections and facilities for the interchange of LNG quality GAS at every locality reached by both pipelines when the necessity exists, subject to rates or regulations made by the appropriate State or Federal agency.

- (2) The LESSEE shall comply with all applicable laws and regulations and orders of the Alaska Public Utilities Commission and shall: (a) obtain a certificate of public convenience and necessity from the Alaska Public Utilities Commission prior to beginning CONSTRUCTION of the PIPELINE SYSTEM and (b) shall maintain its books in accordance with the Uniform System of Accounts for Class A natural GAS pipelines (USOA).
- C. (1) The LESSEE shall provide connections, as determined by the Alaska Public Utilities Commission under AS 42.06.340, to facilities on the PIPELINE subject to the LEASE, both on STATE LAND and on other land in the State, for the purpose of delivering LNG quality GAS to persons (including the STATE and its political subdivisions) contracting for the purchase, including the purchase at wholesale rates of LNG quality GAS transported by the PIPELINE when required by the public interest.
- (2) The LESSEE shall be required to provide connections, as determined by the APUC pursuant to AS 42.06.340 and other applicable state law, in reasonable, accessible locations for the purpose of delivering LNG quality GAS to persons in the Stevens Village, Fairbanks, North Pole, Delta Junction, Glennallen, Copper Center and Valdez areas if the residents request such connection pursuant to applicable law or regulation.
- D. The LESSEE shall, notwithstanding any other provisions, provide connections and interchange facilities at STATE expense at such places the STATE considers necessary, if the STATE determines to take a portion of its royalty GAS or taxes in kind subject to approval of any appropriate State or Federal regulatory agency. Transportation charges for royalty natural GAS taken by the STATE for the benefit of the communities listed in Section 6.C.(2) will be at rates which will compensate the LESSEE for appropriate PIPELINE SYSTEM capital costs and a proportional amount of the operating costs and a reasonable rate of return for only those portions of the PIPELINE SYSTEM utilized, as more specifically determined by the Alaska Public Utilities Commission.

Section 7. Indemnification of the STATE

- A. The LESSEE shall indemnify, hold harmless, and defend the STATE, its employees and agents, against all claims or liabilities arising out of or connected with the application for or administration of this LEASE or out of the PRECONSTRUCTION, CONSTRUCTION, OPERATION or TERMINATION of the PIPELINE SYSTEM, or activities associated therewith.
- B. The LESSEE further agrees that neither the STATE nor any of its officials, employees, agents or contractors will be liable for any damages, losses or expenses caused by reason of decisions made in respect to the application and administration of this LEASE.
- C. The LESSEE will indemnify and hold the STATE harmless for any and all costs or obligations incurred by the STATE in performing any obligation of the LESSEE under this LEASE.
- D. Section 7.A., 7.B., and 7.C. of this LEASE will not be interpreted to excuse the STATE, its officials, employees, agents or contractors from liability for damages or injuries resulting from acts of gross negligence or acts of willful misconduct.

Section 8. Liability

- A. The LESSEE shall be liable for any and all loss, damage, injury, death, or expense resulting from its negligence or arising out of or connected with any procedures, activities, events, or conditions of the

PRECONSTRUCTION, CONSTRUCTION, OPERATION, or TERMINATION of the PIPELINE SYSTEM.

B. LESSEE shall be jointly and severally liable with all of its agents, contractors, or subcontractors.

Section 9. Bonding

A. The LESSEE shall furnish the State of Alaska a surety bond or other security of such type and on such terms and conditions as are acceptable to the COMMISSIONER, in the principal amount of one million dollars (\$1,000,000). Said bond or other security shall be maintained in force and effect in the full principal amount, or in such reduced amount as may be approved by the COMMISSIONER, at all times during the term of the LEASE and until released in writing by the COMMISSIONER. Such release will not be unreasonably withheld upon expiration of the terms of this LEASE, including any renewals of this LEASE, and completion of the LESSEE's obligations under this LEASE and applicable law.

B. Said bond or other security shall be security for payment of any sums owing to the STATE pursuant to the provisions of Section 12, Right of the STATE to Perform, of this LEASE.

C. These requirements are in addition to all other requirements of law, and are not intended to affect, nor are they intended to limit in any way, the LESSEE's liability under any provisions of law.

D. Prior to beginning any CONSTRUCTION activity, the LESSEE shall furnish additional security in the amount of four million dollars (\$4,000,000) of such type and on such terms and conditions as are acceptable to the COMMISSIONER. The requirement for such additional security shall be released in writing by the COMMISSIONER after completion of CONSTRUCTION and commencement of initial operation of the PIPELINE SYSTEM. Such release will not be unreasonably withheld.

E. The COMMISSIONER reserves the right to require additional security from the LESSEE if at any time the COMMISSIONER determines it necessary in connection with the CONSTRUCTION, OPERATION or TERMINATION of the PIPELINE SYSTEM.

F. Prior to initiating any TERMINATION activities, the LESSEE shall furnish a surety bond in the amount of four million dollars (\$4,000,000) of such type and on such terms and conditions as are acceptable to the COMMISSIONER. The COMMISSIONER is authorized to review the bond amount specified in this Subsection and to increase the amount to reflect changed economic factors and conditions. The requirements for such added security shall be released in writing by the COMMISSIONER after completion of TERMINATION activities of the PIPELINE SYSTEM. Such release will not be unreasonably withheld.

Section 10. Insurance

A. Pursuant to AS 38.35.120(a)(14), without limiting LESSEE's indemnification, the LESSEE hereby agrees to provide and maintain in force throughout the term of this LEASE liability and property damage insurance from a company licensed to do business in the state or furnish other security or undertaking upon the terms and conditions the COMMISSIONER considers necessary if the COMMISSIONER finds that the net assets of the LESSEE are insufficient to protect the public from damage for which the LESSEE may be liable arising out of the PRECONSTRUCTION, CONSTRUCTION, OPERATION or TERMINATION of the PIPELINE, such as: comprehensive general liability including premises, operations, independent contractors, products and completed operations liability including contractual liability covering the LESSEE's indemnification obligation under Section 7 of the LEASE (Exhibit A), broad form property damage, pollution liability, explosion, collapse and underground (XCU), and fire legal liability endorsements, owned and non-owned (leased or hired) automobile, aircraft and watercraft liability, and architect and engineer professional errors and omissions.

Coverage shall, to the reasonable satisfaction of the COMMISSIONER, insure the LESSEE's liabilities for accidental occurrences imposed on it by operation of the requirement for indemnification of the STATE contained in this LEASE. Coverage shall be obtained from a carrier with a rating acceptable to the COMMISSIONER and shall be on an "occurrence" basis. The STATE shall be added to the above-described policies as an additional insured with respect to such liabilities. Initially, coverage shall be in the minimal amount of five million dollars (\$5,000,000) per occurrence. Prior to the issuance of the first AUTHORIZATION-TO-PROCEED, coverage shall be in the minimal amount of \$150 million (\$150,000,000) combined single limit per occurrence. Subsequent to approval of the FINAL DESIGN for PIPELINE CONSTRUCTION, and when the LESSEE commences field activities pursuant to the first NOTICE-TO-PROCEED for such CONSTRUCTION, such insurance shall be in the minimum amount of \$250 million per occurrence. When the PIPELINE SYSTEM has been placed into OPERATION and provided that the LESSEE can demonstrate to the COMMISSIONER net worth of \$500 million as evidenced by appropriate financial statement of the LESSEE in its latest annual report such coverage shall then be required solely for the purpose of insuring the LESSEE's aforesaid obligations to the State of Alaska, and the minimum amount shall be \$50 million per occurrence.

B. In addition, the LESSEE shall provide and maintain, for all employees of the LESSEE engaged in work under this LEASE, Workers' Compensation Insurance as required by AS 23.30. The LESSEE shall be responsible for Workers' Compensation Insurance for any contractor or subcontractor who directly or indirectly provides services under this LEASE. This coverage must include employer's liability protection not less than \$1,000,000 per occurrence. The insurer shall agree to waive all rights of subrogation against the STATE, its officers, agents, and employees for losses arising from the leased premises.

C. Certificates of insurance must be furnished to the COMMISSIONER. The required insurance is subject to annual review and adjustment by the COMMISSIONER, who may require reasonable increases based on increased risk.

D. The LESSEE's insurance coverage shall be primary insurance as respects the STATE, its officers, agents and employees. Any insurance or self insurance maintained by the STATE shall be excess of the LESSEE's insurance and shall not contribute with it.

Section 11. Additional Security, Undertaking or Guarantee

A. The LESSEE shall furnish other security, undertaking or guarantee and such terms and conditions as the COMMISSIONER considers necessary if the COMMISSIONER finds that the net assets of the LESSEE are or may become insufficient to protect the public from damage for which such LESSEE may be liable arising from the CONSTRUCTION or OPERATION of the PIPELINE SYSTEM.

B. (1) If the COMMISSIONER finds that the net assets of the LESSEE are or may become insufficient to protect the public from damage for which the LESSEE may be liable arising from the CONSTRUCTION or OPERATION of the PIPELINE SYSTEM, the COMMISSIONER may require such LESSEE to deliver to the COMMISSIONER a valid and unconditional guaranty of the full and timely payment of all liabilities and obligations of the LESSEE to the STATE under or in connection with this LEASE.

(2) It is recognized that a proposed guarantor of the LESSEE may be a corporation (or an individual stockholder thereof), an association that is authorized and empowered to sue and be sued and to hold the title to property in its own name (or an individual associate thereof), a joint stock company that is authorized and empowered to sue and to be sued and to hold the title to property in its own name (or any individual participant therein), or a business trust (or any individual settlor thereof), and may or may not directly or indirectly own a legal or beneficial interest in the LESSEE whose liabilities and

obligations are sought to be guaranteed. In the case of multiple guarantors that are acceptable to the COMMISSIONER, each shall be severally liable for only its proportionate share of any sum or payment covered by the guaranty.

(3) Each guaranty shall be satisfactory to the COMMISSIONER in all respects including, without limitation, the form and substance of the guaranty, the financial capability of a proposed guarantor, the availability of such guarantor to service of process, the availability of the assets of such guarantor with respect to the enforcement of judgements against the guarantor, and the number of guarantors that will be necessary to guarantee all of the liabilities and obligations which will be covered by a particular guaranty; provided, however, that the COMMISSIONER shall not unreasonably withhold approval with respect to a guaranty or guarantor.

(4) The COMMISSIONER shall have the right at any time, and from time to time, to require the substitution and delivery of a new form of guaranty in the event either that an outstanding guaranty is held to be invalid or unenforceable, in whole or in part, by a court of competent jurisdiction or that the controlling law is, by statute or judicial decision, so altered as to impair, prevent or nullify the enforcement or exercise of any right or option of the STATE under an outstanding guaranty; provided, however, that the outstanding guaranty (to the extent of its validity or enforceability, if any) shall continue in full force and effect with respect to any claim, suit, accrued liability or defense thereunder that exists at the time of substitution; provided, further, that the new form of guaranty, in each such case, shall be required as to all LESSEES that at the time of substitution have delivered, or are required to deliver, a guaranty.

(5) Each guaranty shall be accompanied by such certificates and opinions of legal counsel as the COMMISSIONER may require to establish its validity. The guarantee shall include an appointment of an agent for service of process that is satisfactory to the COMMISSIONER.

Section 12. Right of the STATE to Perform

If, after thirty (30) days, or in an emergency such shorter period as shall not be unreasonable, following the making of a demand therefor by the COMMISSIONER, the LESSEE (or its agents, employees, contractors, or subcontractors) shall fail or refuse to perform any of the actions required by the provisions of this LEASE, the STIPULATIONS or applicable regulations, the STATE shall have the right, but not the obligation, to perform any or all of such actions at the sole expense of the LESSEE. Prior to the delivery of any such demand, the COMMISSIONER shall confer with the LESSEE, unless the COMMISSIONER deems it impracticable to do so, regarding the required action or actions that are included in the demand. The COMMISSIONER shall submit to the LESSEE a statement of the expenses reasonably incurred by the STATE during the preceding quarter in the performance by the STATE of any required action and the amount shown to be due on each such statement shall be paid by the LESSEE.

Section 13. Books, Accounts and Records; Access to Property and Records

A. The LESSEE and the LESSEE's agents, contractors, or subcontractors (at any tier) shall maintain and preserve books, accounts and records in accordance with the Uniform System of Accounts for Class A natural gas pipelines, and make those reports that the STATE prescribes or may prescribe by regulation or law as necessary and appropriate for the purposes of administering AS 38.35 and other applicable State laws. The LESSEE shall accord at all reasonable times the STATE and its authorized agents and auditors the right of access to its property and records, of inspection of its property, and of examination and copying of those records both in Alaska and at all other locations outside the State.

B. The LESSEE agrees that it shall submit to the COMMISSIONER, on request, any information or documents or other materials which are submitted to the Secretary of the Interior, the Authorized Officer or Federal Inspector, under the "Agreement and Grant of Right-of-Way and Stipulations for the TRANS-ALASKA GAS SYSTEM" between the United States and the LESSEE, and which the COMMISSIONER determines may be relevant to the enforcement of the rights of the STATE under this LEASE.

C. Within thirty (30) days of issuance of this LEASE, the LESSEE shall advise the STATE of a single central location in Alaska where all books, accounts, records and reports, etc., are stored.

D. The LESSEE shall enter into an agreement with each agent, contractor, or subcontractor (at any tier) providing for inspection of property and records and copying of such documents by the COMMISSIONER in accordance with the above provisions.

E. The LESSEE may request that certain records or files, or records and files of contractors or subcontractors, which are maintained by the LESSEE or their contractors or subcontractors, provided to the STATE be held confidential pursuant to AS 38.05.035(a) or pursuant to any other provision of State law providing for confidentiality. Such request shall be made at the time the material is provided to the STATE or at the time of inspection and copying and each request shall specify the nature of the material and shall indicate which, if any, parts of the files and records are not subject to the request. The LESSEE shall accompany any such request with a citation to the applicable State law, and an explanation of the LESSEE's reasons for believing the material falls within that category of materials required or permitted to be kept confidential. In the event the COMMISSIONER determines at any time such request is not valid, or that the public interest in disclosure outweighs the LESSEE's interest in confidentiality, the COMMISSIONER shall advise the LESSEE or LESSEE's contractors or subcontractors, in writing, of place and date, not sooner than five days from date of the notice, when the STATE intends to release the subject records or files.

Section 14. Appointment of Agent for Service of Process

A. If the LESSEE appoints an agent for the PRECONSTRUCTION, CONSTRUCTION, OPERATION, and TERMINATION of the PIPELINE SYSTEM under and pursuant to this LEASE, the LESSEE shall file a Power of Attorney with the COMMISSIONER appointing such agent as their true and lawful agent and attorney-in-fact on behalf of the LESSEE with full power and authority to execute and deliver any and all instruments in connection with the PRECONSTRUCTION, CONSTRUCTION, OPERATION and TERMINATION of the PIPELINE SYSTEM. Within the scope of such contractual authority, such agent shall represent the LESSEE with respect to this LEASE. Such agent shall be empowered on behalf of the LESSEE to accept service of any process, pleadings or other documents in connection with court of administrative proceedings relating in whole or in part to this LEASE or to all or any part of the PIPELINE SYSTEM and to which the STATE shall be a party.

B. If the LESSEE maintains an agent for the PRECONSTRUCTION, CONSTRUCTION, OPERATION and TERMINATION of the PIPELINE SYSTEM such agent shall be a permanent resident of the State, or if a corporation, shall be authorized to conduct business in Alaska. The LESSEE shall cause such agent to maintain at all times during this LEASE an office in the State of Alaska for the delivery of all documents, orders, notices and other written communications as provided for in Section 18 of the LEASE. The LESSEE may, by written notice, reappoint an agent for service of process.

Section 15. Reimbursement of STATE Expenses

A. The LESSEE shall reimburse the STATE for all reasonable costs incurred by the STATE pursuant to AS 38.35 and AS 38.05 including, but not limited to, costs incurred in processing this LEASE and all other costs

incurred related to administration or enforcement of PRECONSTRUCTION, CONSTRUCTION, OPERATION and TERMINATION activities for all or any part of the PIPELINE SYSTEM.

B. Reimbursement provided for in this section shall be made for each quarter ending on the last day of March, June, September and December. On or before the sixtieth (60th) day after the close of each quarter, the COMMISSIONER shall submit to the LESSEE a written statement of any costs incurred by the STATE during that quarter which are reimbursable. This statement may be supplemented within sixty (60) days after the end of a fiscal year for costs incurred in that year but by neglect, not previously submitted.

C. The LESSEE shall have the right to conduct, at its own expense, reasonable audits by auditors or accountants designated by the LESSEE, of the books, records and documents of the STATE relating to the items on any particular quarterly statement that must be submitted in accordance with Section 15.B, at the places where such books, records and documents are usually maintained and at reasonable times; provided, however, that written notice of a desire to conduct such an audit must be given to the COMMISSIONER (1) at least fifteen (15) days prior to such audit, and (2) by not later than the seventy-fifth (75th) day after the close of the quarter for which the books, records and documents are sought to be audited; and provided, further, that any such audits shall be completed within ninety (90) days after receipt by the LESSEE of the statement containing the items to be audited.

D. Nothing herein requires the STATE to maintain books, records or documents other than those usually maintained by it, provided such books, records, and documents reasonably segregate and identify the costs for which reimbursement is required by this section. Such books, records and documents shall be preserved or caused to be preserved for a period of at least two (2) years after the STATE submits a statement for reimbursement based on such books, records and documents. The auditors or accountants designated by the LESSEE shall have reasonable access to, and the right to copy, at their expense, all such books, records and documents.

E. The LESSEE shall pay to the STATE the total amount shown on each statement but not later than the ninetieth (90th) day following the close of the quarter to which the statement relates; provided, however, that if the LESSEE decides to dispute any item of a statement for reimbursement, the LESSEE, on or before the date on which the statement is due and payable, shall give the COMMISSIONER written notice of each item that is disputed, accompanied by a detailed explanation of its objection, or written notice of each item to be audited, and shall pay the STATE those amounts for the items that are not disputed or are not to be audited. The LESSEE shall give the COMMISSIONER prompt written notice of the completion of the audit of all items of a statement being audited. On a date fixed by the COMMISSIONER but not more than thirty (30) days after notice of a disputed statement or after notice of the completion of the audit, the COMMISSIONER and the LESSEE shall meet to discuss and attempt to resolve, all items which are disputed or which have not been resolved by the audit. Any items resolved as being payable to the STATE shall be paid within thirty (30) days after being resolved together with interest thereon, up to the date of payment, at a total annual percentage rate equal to the discount rate of the Federal Reserve Bank for District Twelve (San Francisco) in effect on the original due date of the statement. Any items left unresolved shall be the subject of a written decision by the COMMISSIONER. If the COMMISSIONER has delegated authority for administrative review, any final decision shall be appealed to the COMMISSIONER before resort to judicial review. Judicial review may be had pursuant to AS 44.62.560.

F. In addition to the right to audit quarterly statements as provided in Section 15.C., if the LESSEE believes that unnecessary employment of personnel or needless expenditure of funds has occurred or is likely to occur, the LESSEE may request the approval of the COMMISSIONER for the LESSEE to conduct promptly, and at their own expense, a full and complete audit by auditors or accountants designated by the LESSEE, of the books, records and documents concerning the matters to be audited, at the places where the books, records and documents to be audited are usually maintained and at reasonable times. Such request shall be in writing, shall specify the matters to be audited and shall state the information available to the LESSEE upon which the

request is based. The COMMISSIONER shall approve or deny such request and a decision on any such request shall not be unreasonably withheld. Any complaint which the LESSEE may have as a result of such audit shall be made to the COMMISSIONER and shall be governed by the procedure set forth in Section 15.E. to the extent applicable.

Section 16. Prevention and Abatement

A. The LESSEE shall prevent or, if the procedure, activity, event or condition already exists or has occurred, abate, as completely and as quickly as practicable, using the best available technology economically feasible, any physical or mechanical procedure, activity, event or condition that is susceptible to prevention or abatement that arises out of the PRECONSTRUCTION, CONSTRUCTION, OPERATION, or TERMINATION of all or any part of the PIPELINE SYSTEM, whenever such procedure, activity, event or condition causes or threatens to cause (1) a hazard to public health, welfare or safety (including but not limited to personal injury or loss of life with respect to any person or persons); or (2) SIGNIFICANT DAMAGE to the environment (including but not limited to water and air quality, areas of vegetation or timber, fish or wildlife populations or their habitats, or the availability of an area's fish or wildlife populations, or any other natural resource); or (3) any damage to or destruction of public or private improvements or any part thereof; or (4) a hazard to PIPELINE SYSTEM integrity.

B. The LESSEE shall immediately notify the COMMISSIONER of any procedure, activity, event or condition that may occur or has occurred, which has caused or threatens to cause a hazard to public health or safety, SIGNIFICANT DAMAGE to the environment, or damage to or destruction of any public or private improvements on STATE LAND or other land in the State, including but not limited to the Right-of-Way.

Section 17. Release of Right-of-Way Interest

A. The LESSEE shall promptly execute and deliver to the STATE, through the COMMISSIONER, a valid instrument of release in recordable form for the relinquishment, abandonment or other TERMINATION of any right or interest in the Right-of-Way, and/or in the use of all or any part of the lands subject to the Right-of-Way during the term of this LEASE. The release of right-of-way interest shall contain, among other things, appropriate recitals, a description of the pertinent rights and interests, and for the benefit of the STATE and its grantees or assigns, express representations and warranties by the LESSEE that it is the sole owner and holder of the rights or interests described therein and that such rights or interests are free and clear of all liens, equities or claims of any kind requiring or that may require the consent of a third party, claiming through, under or due to any act or inaction of the LESSEE, and provide for the release or extinguishment of any such claims which may subsequently arise. The form and substantive content of each instrument of release shall be approved by the COMMISSIONER, but except as otherwise expressly provided for in this Subsection, in no event shall any such instrument operate to increase the then-existing liabilities and obligations of the LESSEE furnishing the release.

B. Each release shall be accompanied by such resolutions and certifications as the COMMISSIONER may require in connection with the power or the authority of the LESSEE, or of any officer or agent acting on its behalf, to execute, acknowledge or deliver the release.

C. Neither the tender, nor the approval and acceptance, of any such release shall operate as an estoppel or waiver of any claim or judgment against a LESSEE or as a relief or discharge, in whole or in part, of any LESSEE from any of its then-existing liabilities or obligations (accrued, contingent or otherwise); and notwithstanding any such tender or delivery, or any approval of the COMMISSIONER, if a release shall contain any provision that operates, or that by implication might operate to discharge or relieve, in whole or in part, the LESSEE of and from any of its liabilities or obligations (accrued, contingent or otherwise) or that operates or

might operate as an estoppel or waiver of any claim or judgment against the LESSEE or as a covenant not to sue, such provision shall be, and shall be deemed to be, void and of no effect whatsoever insofar as it would have the effect of so discharging or relieving a LESSEE or operating as an estoppel, waiver or covenant not to sue.

Section 18. Orders, Notices and Other Documents

- A. All decisions, determinations, authorizations, approvals, consents, demands or directions that shall be made or given by the COMMISSIONER to the LESSEE in connection with the enforcement or administration of this LEASE, or of any other PIPELINE SYSTEM-related agreement, permit, lease or other authorization shall, except as otherwise provided in Section 18.B, be in the form of a written order or notice.
- B. If, in the judgment of the COMMISSIONER, there is an emergency that necessitates the immediate issuance of an order or notice to the LESSEE, such order or notice may be given orally; provided, however, that subsequent confirmation of the order or notice shall be given in writing as rapidly as is practicable under the circumstances.
- C. The absence of any comment by the COMMISSIONER on any order, notice, or any other document shall not be deemed to represent an approval of the document or concurrence with any action proposed by the document. Any written approval or concurrence issued by the COMMISSIONER may be relied upon by the LESSEE unless and until rescinded in writing, except as provided in Section 18.B.
- D. The COMMISSIONER will act in writing upon each submission by the LESSEE in accordance with any applicable schedules developed pursuant to STIPULATIONS 1.5, 1.6, and 1.10.
- E. All written orders, notices or other communications, including telegrams, of the COMMISSIONER's that are addressed to the LESSEE shall be deemed to have been delivered to and received by the LESSEE when the order, notice or other communication has been delivered: (1) either by messenger during normal business hours or by means of registered or certified United States mail, postage prepaid, return receipt requested, to the office of the agent of the LESSEE in Alaska, or (2) personally to an authorized representative of the LESSEE or agent.
- F. All written notices and communications, including telegrams, of the LESSEE's that are addressed to the COMMISSIONER shall be deemed to have been delivered to and received by the COMMISSIONER when the notice or communication has been delivered, either by messenger during normal business hours or by means of registered or certified United States mail, postage prepaid, return receipt requested, to the COMMISSIONER, or personally to the office of the designated State Pipeline Officer, or an authorized representative of the State Pipeline Officer.
- G. Any disapproving action related to an order, notice or any other document by the COMMISSIONER, including any requests for additional information, shall state what additional action is necessary to gain approval and may be appealed as provided in Section 21 of this LEASE. Additionally, any revocation of an order, notice or other document may be appealed as provided in Section 21 of this LEASE. Temporary Suspension Orders are subject to the provisions of Sections 20 and 21 of this LEASE.

Section 19. Compliance with ATP/NTP AUTHORIZATIONS

All PRECONSTRUCTION and CONSTRUCTION activities conducted on STATE LAND that are undertaken by the LESSEE, its agents, employees, contractors and subcontractors (at any tier) shall comply in all respects with the provisions of the specific ATP/NTP AUTHORIZATIONS that are issued by the

COMMISSIONER as provided by STIPULATIONS 1.5 and 1.10 (Exhibit A). A specific ATP/NTP AUTHORIZATION may be disapproved, revoked, or work may be temporarily suspended by written order of the COMMISSIONER. No approval of a construction plan or issuance of an authorization shall relieve the LESSEE, its agents, employees, contractors and subcontractors of responsibility for any activity or of responsibility for the means and methods of accomplishing the work.

Section 20. TEMPORARY SUSPENSION ORDERS; Requests to Resume

A. The COMMISSIONER may at any time order the temporary suspension of any or all PRECONSTRUCTION, CONSTRUCTION, OPERATION or TERMINATION activities of the LESSEE, its agents, employees, contractors or subcontractors (at any tier) in connection with the PIPELINE SYSTEM, including but not limited to the transportation of GAS, if

(1) An immediate temporary suspension of such activities is necessary to protect (a) public health or safety (including, but not limited to, personal injury or loss of life with respect to any person or persons), or (b) the environment from immediate or irreparable, unexpected harm or damage (including, but not limited to, harm or damage to water and air quality, areas of vegetation or timber, fish or other wildlife populations, or their habitats, or any other natural resource), or (c) public or private property from immediate or irreparable damage; or

(2) The LESSEE, its agents, employees, contractors and subcontractors (at any tier), fail or refuse, or have failed or refused, to comply with any provision of this LEASE or any order or notice of the COMMISSIONER related to enforcement or administration of the LEASE, or the provisions of all other PIPELINE SYSTEM related agreements, leases, permits or authorizations.

B. The COMMISSIONER shall give the LESSEE prior notice of any temporary suspension order as deemed practicable. If circumstances permit, prior to issuing the order, the COMMISSIONER shall discuss with the LESSEE appropriate measures to (1) immediately abate or avoid the harm or damage or threatened harm or damage that is the reason for the issuance of the order, or (2) effect compliance with the provision or order, whichever is applicable.

C. After a temporary suspension order has been given by the COMMISSIONER, the LESSEE shall promptly comply with all of the provisions of the order and shall not resume any activity suspended or curtailed thereby except as provided in this LEASE or under court order.

D. Any temporary suspension order which, in any emergency, is given orally, shall be confirmed in writing. Each temporary suspension order shall be limited, insofar as is practicable, to the particular area or activity that is or may be affected by the activities or conditions that are the basis for the order. Each order shall remain in full force and effect until modified or revoked in writing by the COMMISSIONER.

E. Resumption of any suspended activity shall be promptly authorized by the COMMISSIONER, in writing, as provided in Section 20.F of this LEASE, when it is determined by the COMMISSIONER that (1) the harm or damage or threatened harm or damage has been abated or remedied, or (2) the LESSEE has effected, or is ready, willing and able to effect compliance with the provision or order whichever is applicable.

F. If the COMMISSIONER has ordered the temporary suspension of an activity of the LESSEE pursuant to Sections 20.A of this LEASE, the LESSEE may at any time thereafter file with the COMMISSIONER a written request for permission to resume that activity on the ground that the reason for the suspension no longer exists. The request to resume shall contain a statement which, in the LESSEE's view, supports resumption of the suspended activity. If it is determined by the COMMISSIONER that the reason for the suspension of activity remains valid and the request to resume is denied, the LESSEE may file subsequent requests to resume.

G. The COMMISSIONER, acting with due diligence, shall render a decision, either granting or denying the request, within three (3) days of the date that the request to resume was received by the COMMISSIONER. If the COMMISSIONER does not render a decision within that time, the request to resume shall be considered denied and the LESSEE may appeal as provided in Section 21.

Section 21. Appeal Procedure

A. All decisions rendered by the COMMISSIONER's designee(s) relating to the enforcement or administration of this LEASE and any other PIPELINE SYSTEM related agreements, leases, permits or authorizations may be appealed to the COMMISSIONER if a notice of appeal is filed within thirty (30) days after issuance of the decision, except as provided in Sections 21.B, 21.C and 21.D. Any decision rendered by the COMMISSIONER constitutes a final administrative decision and may be appealed as provided by AS 44.62.560. COMMISSIONER in this Section means the COMMISSIONER of the Department of Natural Resources and does not mean the COMMISSIONER's appointed designee(s) as defined in STIPULATION 1.1.1.6.

B. Appeals from temporary suspension orders; appeals from denials of requests to resume:

- (1) The LESSEE may appeal to the COMMISSIONER for review of (a) any temporary suspension order issued pursuant to Section 20 of this LEASE; and (b) any denial of a request to resume which has been issued pursuant to Section 20 of this LEASE. The LESSEE shall file a notice of appeal for review promptly after the effective date of the order or denial being appealed.
- (2) The COMMISSIONER, acting with due diligence, shall render a decision on an appeal provided for in this Subsection within three (3) days of the date the appeal notice is received by the COMMISSIONER. If the COMMISSIONER does not render a decision within that time, the appeal shall be considered denied, and such denial shall constitute the final administrative decision of the COMMISSIONER.

C. Appeals with respect to NOTICES-TO-PROCEED

- (1) The LESSEE may appeal to the COMMISSIONER if
 - (a) the COMMISSIONER's designee has issued a NOTICE-TO-PROCEED not substantially in accord with the application therefor, or
 - (b) the COMMISSIONER's designee has construed the applicable terms and conditions of the LEASE erroneously, or
 - (c) the COMMISSIONER's designee has imposed arbitrary and capricious requirements to enforce the terms and conditions of the LEASE, or
 - (d) the LESSEE has made a bonafide effort to meet the requirements of the COMMISSIONER's designee, but with the best practicable technology available, is unable to comply, or
 - (e) the COMMISSIONER's designee fails to act on a requested NOTICE-TO-PROCEED within the time prescribed by STIPULATION 1.10.6.
- (2) The COMMISSIONER, acting with due diligence, shall render a decision on an appeal provided for in this Subsection within three (3) days of the date the appeal notice is received by the

COMMISSIONER. If the COMMISSIONER does not render a decision within that time, the appeal shall be considered denied, and such denial shall constitute the final administrative decision of the COMMISSIONER.

D. The COMMISSIONER, acting with due diligence, shall render any other decisions on appeals that relate to CONSTRUCTION activities within three (3) days of the date the appeal notice is received by the COMMISSIONER. If the COMMISSIONER does not render a decision in that time, the appeal shall be considered denied, and such denial shall constitute the final administrative decision of the COMMISSIONER.

E. The COMMISSIONER, acting with due diligence, shall render all other decisions on appeals that relate to enforcement and administration of this LEASE and any other PIPELINE SYSTEM agreements, leases, permits or authorizations within thirty (30) days of the date the appeal notice is received by the COMMISSIONER. If the COMMISSIONER does not render a decision in that time, the appeal shall be considered denied, and such denial shall constitute the final administrative decision of the COMMISSIONER.

F. Any future administrative decision made by the State of Alaska that affects the title to the property described by this LEASE is subject to administrative and legal appeal made pursuant to State Statutes.

Section 22. TERMINATION PLANS

Within two years of the planned TERMINATION of the PIPELINE SYSTEM, the LESSEE shall submit TERMINATION plans to the COMMISSIONER. TERMINATION plans shall include such information as the COMMISSIONER may require, and no TERMINATION activity may begin until written approval has been received from the COMMISSIONER.

Section 23. Involuntary Termination of LEASE: Breaches

A. Failure of the LESSEE to begin CONSTRUCTION of the PIPELINE SYSTEM within an five (5) years of granting of the LEASE for reasons within control of the LESSEE shall be grounds for involuntary termination of the LEASE by order of the Superior Court.

B. Failure of the LESSEE to comply with the terms of the LEASE shall be grounds for involuntary termination of the LEASE by order of the Superior Court.

C. Before the commencement of an action for involuntary termination of an interest in the Right-of-Way under this section, the COMMISSIONER shall give the LESSEE notice in writing of the alleged breach and shall not commence action in Superior Court unless LESSEE has failed to cure the breach within sixty (60) days of the notice of the alleged breach.

D. Any such breaches of this Right-of-Way LEASE shall upon written order signed by the COMMISSIONER, be subject to a contract penalty in the amount of \$10,000 per day for each breach of contract.

E. Termination of this LEASE shall not relieve the LESSEE of any obligations under this LEASE.

Section 24. Prevalence of Law

If a valid State or Federal law is in direct conflict with a term or condition of this LEASE, then the State or Federal law shall prevail.

Section 25. Remedies Cumulative; Equitable Relief

No remedy conferred by this LEASE upon or reserved to the STATE or the LESSEE is intended to be exclusive of any other remedy provided for by this LEASE or by law, but each shall be cumulative and shall be in addition to every other remedy given in this LEASE or now or hereafter existing in equity or at law; and the STATE, in a proper action instituted by it, may seek a decree against LESSEE for specific performance and injunctive or other equitable relief, as may be appropriate.

Section 26. Waiver not Continuing

The waiver by any party of any breach of any provision of this lease by any other party, whether such waiver is expressed or implied, will not be construed to be a continuing waiver or a waiver of, or consent to, any subsequent or prior breach on the part of such other party, of the same or any other provision of this LEASE.

Section 27. Rights of Third Parties

Except for the liability to third parties created pursuant to Section 8 and the insurance requirements of Section 10, the parties to this LEASE do not intend to create any rights under this LEASE that may be enforced by third parties for their own benefit or for the benefit of others.

Section 28. LEASE not a Waiver of any State Statutory or Regulatory Power

This LEASE and the covenants contained herein shall not be interpreted as a limitation on the exercise by the State of Alaska or by the United States of America of any power conferred by valid existing or future statutes or regulations which may affect, directly or indirectly, the activities of the LESSEE in connection with this LEASE and which protect the environment, health, safety, general welfare, lives, or property of the people of the State of Alaska.

Section 29. Section Headings

The section headings in this LEASE are for convenience only and have no other significance.

Section 30. Exhibits

A. Exhibits A and B, as referenced in this section, are attached hereto and made a part hereof.

- (1) Exhibit A: Right-of-Way Lease Stipulations for the Trans-Alaska Gas System
- (2) Exhibit B: Conditional Right-of-Way Lease for the Trans-Alaska Gas System, ADL 413342.

B. Exhibit C, as referenced in this section, is incorporated into and made a part of this LEASE as if set forth in its entirety.

(1) Exhibit C: Right-of-Way Lease Application Documents for the Trans-Alaska Gas System dated March 12, 1987 (accepted May 7, 1987).

- a. Right-of-Way Lease Application
- b. Project Description
- c. Responses to the Bureau of Land Management's Request for Additional Information
- d. Trans-Alaska Gas System Alignment Maps (31 sheets, Drawing Series TAGS-01, Revision 1, dated November 1, 1988)

Section 31. Authority to Enter Agreement

The LESSEE represents and warrants to the STATE that it is duly authorized and empowered under the applicable laws of the State of Alaska to enter into and perform this LEASE in accordance with the provisions of this LEASE.

Section 32. Partial Invalidity

If any part of this LEASE is held invalid or unenforceable, the remainder of this LEASE shall not be affected and shall be valid and enforced to the fullest extent permitted by law.

Section 33. Acceptance of LEASE

The LESSEE's execution of this Right-of-Way LEASE signifies acceptance of the terms and conditions contained herein. Such acceptance constitutes an agreement between the LESSEE and the STATE that, in consideration of the right to use STATE LAND, the LESSEE, together with the LESSEE's respective agents, employees, contractors and subcontractors (at any tier), shall comply with all terms and conditions contained in the LEASE and all applicable laws and regulations.

IN WITNESS WHEREOF, the parties hereto have duly executed this LEASE as of the first written date.

STATE OF ALASKA

YUKON PACIFIC CORPORATION

By: Judith M. Brady
COMMISSIONER
Department of Natural Resources

By: Howard D. Griffith
President and Chief Executive Officer
YUKON PACIFIC CORPORATION

Date: _____

Date: _____

State of)
) ss
)

The foregoing instrument was acknowledged before me this ____ day of _____, 19____, by _____, President of YUKON PACIFIC CORPORATION.

Notary Public in and for the State of _____
My Commission Expires: _____

STATE OF ALASKA)
) ss
Third Judicial District)

THIS IS TO CERTIFY that on this _____ day of _____, 19 ____, before me personally appeared _____, the COMMISSIONER of the Department of Natural Resources of the State of Alaska, who executed the foregoing instrument and acknowledged voluntarily signing the same.

Notary Public in and for the State of Alaska
My Commission Expires:

**EXHIBITS
TO THE
RIGHT-OF-WAY LEASE
FOR THE
TRANS-ALASKA GAS SYSTEM**

TAGS Lease
ADL 413342
December 10, 1988

EXHIBIT A
RIGHT-OF-WAY LEASE STIPULATIONS
FOR THE
TRANS-ALASKA GAS SYSTEM

State of Alaska
Department of Natural Resources
Division of Land and Water Management
State Pipeline Office

TABLE OF CONTENTS

SECTION 1. GENERAL STIPULATIONS

1.1. Definitions	1
1.2. Responsibilities	5
1.3. Authority of Representatives of the COMMISSIONER and of Agent of the LESSEE.....	6
1.4. Field Activities.....	6
1.5. AUTHORIZATION TO PROCEED.....	7
1.6. Summary Network Analysis Diagram.....	7
1.7. Project Performance Standards; DESIGN CRITERIA; Project Plans and Programs	8
1.8. CONCEPTUAL DESIGN	9
1.9. FINAL DESIGN.....	9
1.10. NOTICE-TO-PROCEED; Application	10
1.11. Quality Assurance and Control.....	12
1.12. Surveillance and Maintenance	13
1.13. Public and Private Improvements.....	14
1.14. Health and Safety.....	14
1.15. Survey Requirements	14
1.16. Public Access.....	15
1.17. Fire Prevention and Suppression.....	15
1.18. Communications	16
1.19. Cultural Resources	16
1.20. Hunting, Fishing, Trapping.....	16
1.21. Changes in Conditions	16

SECTION 2. ENVIRONMENTAL STIPULATIONS

2.1. Environmental Briefings.....	17
-----------------------------------	----

2.2. Pollution Control.....	17
2.3. Buffer Strips	19
2.4. Erosion and Sedimentation Control.....	19
2.5. Fish and Wildlife Protection.....	20
2.6. Material Sites	22
2.7. Clearing.....	22
2.8. Disturbance of Natural Drainage and Water Use.....	23
2.9. Off Right-of-Way Travel.....	23
2.10. Visual Resources.....	23
2.11. Use of Explosives.....	23
2.12. RESTORATION.....	24
2.13. PIPELINE Contingency Plan.....	24

SECTION 3. TECHNICAL STIPULATIONS

3.1. PIPELINE SYSTEM Standards.....	25
3.2. Special Standards.....	25
3.3. Standards for ACCESS ROADS.....	26
3.4. CONSTRUCTION MODE Requirements	26
3.5. Earthquakes and Fault Displacements	26
3.6. Slope Stability.....	27
3.7. Stream, River, Floodplain and WETLAND Crossings	28
3.8. PRECONSTRUCTION, CONSTRUCTION, OPERATION and TERMINATION.....	29
3.9. Containment of Spills of OIL or Other HAZARDOUS SUBSTANCES	30

SECTION 1. GENERAL STIPULATIONS

1.1 Definitions

1.1.1. Terms having special meaning in this LEASE document and in the STIPULATIONS are capitalized and are defined in this Subsection.

1.1.1.1. ACCESS ROAD(S) means a road or roads other than a PUBLIC ROAD/HIGHWAY, that is constructed and/or used by the LESSEE for ingress or egress to any PIPELINE SYSTEM FACILITY in connection with all PRECONSTRUCTION, CONSTRUCTION, OPERATION, or TERMINATION activities.

1.1.1.2. ATP/NTP AUTHORIZATION means either (1) AUTHORIZATION-TO-PROCEED issued for PRECONSTRUCTION activities as defined in STIPULATION 1.1.1.3, or (2) NOTICE-TO-PROCEED issued for CONSTRUCTION activities as defined in STIPULATION 1.1.1.23.

1.1.1.3. AUTHORIZATION(S)-TO-PROCEED means a written order authorizing PRECONSTRUCTION activities in accordance with STIPULATION 1.5.

1.1.1.4. COMMISSIONING means a written order, issued by the COMMISSIONER subsequent to completion of CONSTRUCTION of the PIPELINE and RELATED FACILITIES, which authorizes operational start-up of the PIPELINE SYSTEM.

1.1.1.5. CONCEPTUAL DESIGN means (1) standard drawings showing functional and technical requirements of each typical FACILITIES or structure, including CONSTRUCTION MODE; and (2) written criteria in the form of design manuals, outlines of project specifications and other typical engineering drawings that will guide the FINAL DESIGN, CONSTRUCTION, OPERATION, and TERMINATION of the project.

1.1.1.6. COMMISSIONER means the COMMISSIONER of the Department of Natural Resources, State of Alaska, or the COMMISSIONER's appointed designee(s).

1.1.1.7. CONSTRUCTION means all activities associated with building all components of the PIPELINE SYSTEM from issuance of any NOTICE-TO-PROCEED authorizations to COMMISSIONING of the PIPELINE SYSTEM. PRECONSTRUCTION activities are not included in this definition.

1.1.1.8. CONSTRUCTION MODE means the type of CONSTRUCTION to be employed, generally with regard to the PIPELINE and with respect to specific engineering, geotechnical and environmental parameters and operational concepts.

1.1.1.9. CONSTRUCTION SEGMENT means a physical portion of the PIPELINE SYSTEM, as agreed upon by the LESSEE and the COMMISSIONER, that constitutes a complete portion or stage, in and of itself, which can be constructed independently of any other portion or stage of the PIPELINE SYSTEM in a designated geographical area.

1.1.1.10. CONSTRUCTION ZONE means an area within the Right-of-Way, specified and approved in writing by the COMMISSIONER, to which all CONSTRUCTION activities, not including PRECONSTRUCTION activities, shall be limited.

1.1.1.11. DESIGN CRITERIA means the engineering, geotechnical, and environmental parameters, and operational concepts, necessary to: (1) delineate the project and (2) define the envelope of constraints within which FINAL DESIGN, CONSTRUCTION, OPERATION and TERMINATION of the project will occur. DESIGN CRITERIA include but are not limited to: (1) all engineering, geotechnical, and environmental data collected in support of project design and concepts, including alignment and FACILITY siting, and reports or other evaluations of such data; and (2) written criteria in the form of project plans and programs, and concepts that will guide FINAL DESIGN, CONSTRUCTION, OPERATION, and TERMINATION of the project.

1.1.1.12. FACILITY/FACILITIES means an improvement, temporary or permanent, such as a building, road, airstrip, workpad area, or utility which is/are built or installed to perform some particular function.

1.1.1.13. FIELD TURN-ON means any appropriate written field authorization issued by the COMMISSIONER to allow initiation of a field activity.

1.1.1.14. FINAL DESIGN means completed design documents suitable for bid solicitation, including: (1) contract plans and specifications; (2) proposed CONSTRUCTION MODES; (3) operational requirements necessary to justify designs; (3) design analysis, including calculations for each particular design feature and summaries of applicable engineering tests conducted and their results; (4) all functional, engineering, geotechnical, and environmental criteria; and (5) other considerations pertinent to design.

1.1.1.15. FISH OVERWINTERING AREAS means those areas inhabited by fish between freeze-up and breakup.

1.1.1.16. FISH REARING AREAS means those areas inhabited by fish during any life stage.

1.1.1.17. FISH SPAWNING AREAS means those areas where anadromous and resident fish deposit their eggs.

1.1.1.18. GAS means a gaseous mixture, principally of methane and other paraffinic hydrocarbons, suitably conditioned to an acceptable specification of the LESSEE and appropriate regulatory agencies for transportation by the PIPELINE.

1.1.1.19. HAZARDOUS SUBSTANCE(S) means HAZARDOUS SUBSTANCES as defined by the State Department of Environmental Conservation, Environmental Protection Agency, the U.S. Department of Transportation or as specified in writing by the COMMISSIONER in consultation with the State Department of Environmental Conservation during the review of the LESSEE's HAZARDOUS SUBSTANCES control, cleanup and disposal plan.

- 1.1.1.20. LEASE means an instrument granting a leasehold interest in the Right-of-Way for the Trans-Alaska Gas System to Yukon Pacific Corporation for the purpose of PRECONSTRUCTION, CONSTRUCTION, OPERATION and TERMINATION of the PIPELINE pursuant to AS 38.35.
- 1.1.1.21. LESSEE means Yukon Pacific Corporation or its respective successors or assigns.
- 1.1.1.22. MUTUALLY AGREE(D) means concurrence between the LESSEE and the COMMISSIONER's designee. Impasses are subject to appeal to the Commissioner of the Department of Natural Resources of the State of Alaska.
- 1.1.1.23. NOTICE(S)-TO-PROCEED means a written order authorizing CONSTRUCTION activities in accordance with STIPULATION 1.10.
- 1.1.1.24. OIL means oil of any kind or form, including but not limited to petroleum, fuel oil, sludge, oil refuse, and oil mixed with WASTE other than dredged spoil.
- 1.1.1.25. OPERATION means all activities related to the act of transporting natural GAS, including maintenance and repair of the Right-of-Way and all the improvements thereon, and the fulfillment of all obligations incurred under this LEASE.
- 1.1.1.26. PIPELINE means the line of pipe traversing STATE LAND for the transportation of GAS as authorized by this LEASE.
- 1.1.1.27. PIPELINE SYSTEM means all the FACILITIES on STATE LAND which are constructed or used by the LESSEE in connection with PRECONSTRUCTION, CONSTRUCTION, OPERATION or TERMINATION activities of the Trans-Alaska Gas System. The term includes the PIPELINE AND RELATED FACILITIES, temporary or permanent, and includes temporary or permanent pipeline-related FACILITIES that may be authorized by other instruments pursuant to AS 38.05, which are constructed or used by the LESSEE in connection with the PRECONSTRUCTION, CONSTRUCTION, OPERATION and TERMINATION of the Trans-Alaska Gas System.
- 1.1.1.28. PRECONSTRUCTION means all activities, including field activities, associated with planning and designing the PIPELINE SYSTEM prior to the issuance of any NOTICE-TO-PROCEED authorizations.
- 1.1.1.29. PROXIMATE/PROXIMITY means those portions of the PIPELINE and RELATED FACILITIES that will have a direct impact on the FACILITIES of third party owners with valid existing rights on STATE LAND, including crossings, as identified by such owners and reviewed and approved by the COMMISSIONER.
- 1.1.1.30. PUBLIC ROAD(S)/HIGHWAY(S) means an improved route on land that is open to common use and enjoyment of all persons, which provides access to certain land and which is under the control of and maintained by public authorities for use by the general public.
- 1.1.1.31. RELATED FACILITIES in this LEASE includes compressor stations, the Liquefied Natural Gas (LNG) plant, marine terminal, airstrips, access roads,

CONSTRUCTION camps, storage yards, fiber optic communication system, valves and other control devices, cathodic protection devices, bridges, culverts and low-water crossings, retaining walls, berms, dikes, ditches, cuts and fills, hydraulic and erosion control structures, and other structures or FACILITIES of a similar nature as the COMMISSIONER may determine after consultation with the LESSEE.

1.1.1.32. RESTORE/RESTORATION means to return a disturbed area to a natural or near natural condition, unless otherwise approved by the COMMISSIONER. RESTORATION includes, where appropriate, erosion and sedimentation controls, stream rehabilitation, REVEGETATION, re-establishment of native species, visual amelioration and stabilization.

1.1.1.33. REVEGETATION means the establishment of plant cover on disturbed lands through techniques including, but not limited to, seedbed preparation, seeding, planting, fertilizing, mulching, and watering, or, where appropriate, natural revegetation.

1.1.1.34. SIGNIFICANT DAMAGE means a measurable and persistent adverse change, not attributable to natural fluctuation, in the environment, or in the size, productivity or distribution of a fish, bird or mammal population, in an area's carrying capacity for such a population, or in the availability of such a population for human use.

1.1.1.35. STATE means the State of Alaska.

1.1.1.36. STATE LAND is defined by AS 38.35.230(A)-(C) as (1) all land, including shore, tide and submerged land, or resources belonging to or acquired by the STATE as defined by 38.05.965(19); (2) any interest owned or hereafter acquired by the STATE in land; (3) public land of the United States selected by the STATE under Sec. 6 of the Alaska Statehood Act of 1958 (PL 85-508; 72 Stat 399), as amended, and real property of the United States transferred to the STATE under secs. 21, 35, and 45 of the Alaska Omnibus Act of 1959 (PL 86-70, 73 Stat 141), as amended.

1.1.1.37. STIPULATION(S) means "Right-of-Way Lease Stipulations for the Trans-Alaska Gas System (Exhibit A)".

1.1.1.38. TEMPORARY SUSPENSION ORDER means a stop work order issued by the COMMISSIONER for any activity related to PRECONSTRUCTION, CONSTRUCTION, OPERATION or TERMINATION of the PIPELINE SYSTEM.

1.1.1.39. TERMINATION means all activities connected with the expiration, relinquishment or completion of use of the Right-of-Way, including fulfillment of all obligations incurred under this LEASE.

1.1.1.40. TRANS-ALASKA PIPELINE SYSTEM means the right-of-way lease authorized pursuant to AS 38.35 and other related improvements authorized pursuant to AS 38.05.

1.1.1.41. WASTE means all discarded matter other than construction spoil. It includes, but is not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes and equipment.

1.1.1.42. WETLAND(S) means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. WETLANDS generally include swamps, marshes, bogs, and similar areas.

1.2. Responsibilities

1.2.1. Except where COMMISSIONER approval is required before the LESSEE may commence a particular activity, neither the STATE nor any of its employees or agents agrees, or is in any way obligated, to examine or review any plan, design, specification or other document which may be filed with the COMMISSIONER by the LESSEE pursuant to these STIPULATIONS.

1.2.2. With regard to the PRECONSTRUCTION, CONSTRUCTION, OPERATION, or TERMINATION of the PIPELINE SYSTEM:

A. the LESSEE shall ensure full compliance with the provisions of this LEASE, including these STIPULATIONS, by the LESSEE's employees, agents, contractors, or subcontractors (at any tier) and the employees of each of them;

B. unless clearly inapplicable, the requirements and prohibitions imposed upon the LESSEE by these STIPULATIONS are also imposed upon the LESSEE's agents, employees, contractors and subcontractors (at any tier) and the employees of each of them.

C. failure or refusal of the LESSEE's agents, employees, contractors or subcontractors and the employees of each of them, to comply with these STIPULATIONS shall be deemed to be the failure or refusal of the LESSEE.

D. the LESSEE shall require its agents, contractors and subcontractors to include these STIPULATIONS in all contracts and subcontracts which are entered into by any of them, together with a provisions that the other contracting party, together with its agents, employees, contractors and subcontractors, and the employees if each of them, shall likewise be bound to comply with these STIPULATIONS.

1.2.3. In the implementation of STIPULATION 1.2.2, the LESSEE shall furnish all supervisory-level employees with copies of these STIPULATIONS and will provide explanation of the limitations imposed by these STIPULATIONS.

1.2.4. For the purpose of information and review, the COMMISSIONER may call upon the LESSEE at any time to furnish any or all data related to PRECONSTRUCTION, CONSTRUCTION, OPERATION or TERMINATION activities undertaken in connection with the PIPELINE SYSTEM.

1.2.5. The LESSEE shall not interfere with the operations of the TRANS-ALASKA PIPELINE SYSTEM or other existing FACILITIES of third party owners with valid existing rights of STATE LAND pursuant to any permits, leases, or easements for rights-of-way, or with the activities of employees, contractors, or subcontractors and agents of the TRANS-ALASKA PIPELINE SYSTEM or any other authorized entity, except as approved in writing by the COMMISSIONER.

1.2.6. The LESSEE and its agents, employees, contractors and subcontractors (at any tier) shall perform all PRECONSTRUCTION, CONSTRUCTION, OPERATION and TERMINATION activities of the PIPELINE SYSTEM in a safe, workmanlike manner for the purpose of ensuring protection of PIPELINE SYSTEM integrity, public health and safety, the environment, and existing public and private improvements, and shall at all times employ and maintain personnel and equipment sufficient for that purpose. The LESSEE shall immediately notify the COMMISSIONER as specified in Section 16.B of this LEASE, and any owner of existing public or private improvements, if applicable, of any procedure, activity, event, or condition which causes or threatens to cause a hazard to PIPELINE SYSTEM integrity, public health and safety, the environment, and existing public and private improvements.

1.3. Authority of Representatives of the COMMISSIONER and of Agent of the LESSEE

1.3.1. No order or notice given, pursuant to Section 18 of the LEASE, to the LESSEE by the COMMISSIONER or by an authorized representative of the COMMISSIONER shall be effective as to the LESSEE unless prior written notice of the delegation of authority to issue such an order or notice has been given to the LESSEE.

1.3.2. The LESSEE shall comply with each and every lawful order that is directed to them and that is issued by the COMMISSIONER or by an authorized representative of the COMMISSIONER.

1.3.3. During PRECONSTRUCTION, CONSTRUCTION, OPERATION and TERMINATION of the PIPELINE SYSTEM, the LESSEE or its agent shall appoint a sufficient number of authorized representatives to allow for the prompt delivery to the LESSEE of all notices, orders and other communications, written or oral, of the COMMISSIONER. Each of the agent's authorized representatives shall be registered with the COMMISSIONER and shall be appropriately identified in such a manner and on such terms as the COMMISSIONER shall prescribe. The LESSEE shall cause its agent to consult with the COMMISSIONER at any time regarding the number and location of such representatives of the agent.

1.4 Field Activities

1.4.1. The STATE or its authorized representatives, employees, contractors or subcontractors shall have a continuing and reasonable right of access to the Right-of-Way and to any part of the PIPELINE SYSTEM on STATE LAND or other land in the State for official business upon presentation of a valid STATE identification card.

1.4.2. During the PRECONSTRUCTION, CONSTRUCTION, OPERATION, and TERMINATION of the PIPELINE SYSTEM, the LESSEE shall furnish without cost to the STATE, its authorized representatives, employees, contractors or subcontractors and the employees of each of them involved in field activities, meals, living quarters and office space, comparable to those of YPC peers, reasonable use of the LESSEE's communication systems, reasonable surface and air transportation, and vehicle maintenance. For purposes of this STIPULATION only, the eligibility for logistic support of individuals involved in field surveillance will be determined by the COMMISSIONER. Whenever possible, the COMMISSIONER will issue advance written notification to the LESSEE of the need for such services and FACILITIES, including the number of persons to be accommodated.

1.5. AUTHORIZATION-TO-PROCEED

1.5.1. Prior to initiating any PRECONSTRUCTION activities on STATE LAND, the LESSEE must possess a valid AUTHORIZATION-TO-PROCEED, or other written authorization, issued by the COMMISSIONER. Each AUTHORIZATION-TO-PROCEED shall authorize only PRECONSTRUCTION activities specific to that permit. An AUTHORIZATION-TO-PROCEED may contain such site-specific terms and conditions as the COMMISSIONER finds necessary to implement the provisions of this LEASE, and the LESSEE shall comply in all respects with the provisions of the AUTHORIZATION-TO-PROCEED.

1.5.2. Each application for an AUTHORIZATION-TO-PROCEED shall be accompanied by the following:

- A. a description of the proposed activity and its location, including access routes;
- B. scaled maps or drawings depicting exact location of the proposed activities, PROXIMATE existing FACILITIES of third party owners with valid existing rights on STATE LAND, including the TRANS-ALASKA PIPELINE SYSTEM, drainages, trails, or other access routes, and other pertinent information sufficient to identify potential conflicts with existing land uses and state and private property interests;
- C. proposed measures for prevention of significant adverse environmental impact;
- D. proposed RESTORATION procedures for areas of surface disturbance;
- E. proposed measures for protecting subsistence resources and their uses in the vicinity of the proposed activity;
- F. separate analysis of the effects of the proposed activity and written evidence of coordination with any third party owners with valid existing rights on STATE LAND, including the TRANS-ALASKA PIPELINE SYSTEM, or other authorized OIL or GAS transportation pipeline(s) whose FACILITIES are PROXIMATE to such PRECONSTRUCTION activities.

1.5.3. Prior to the submission of any applications for AUTHORIZATIONS-TO-PROCEED, the LESSEE and the COMMISSIONER shall agree to a schedule for the submission, review and approval of such applications. The schedule shall be revised at intervals MUTUALLY AGREED upon by the LESSEE and the COMMISSIONER.

1.6. Summary Network Analysis Diagram

1.6.1. The LESSEE shall submit a Summary Network Analysis Diagram to the COMMISSIONER for review and approval, prior to or concurrently with the submission of Design Criteria. Until the Summary Network Analysis Diagram is approved by the COMMISSIONER, the Project Development Schedule required by Section 2.C.(1) of the "Conditional Right-of-Way Lease for the Trans-Alaska Gas System" (Exhibit B) is to be submitted annually. The Summary Network Analysis Diagram shall include all PRECONSTRUCTION and CONSTRUCTION related activities or contingencies which reasonably may be anticipated in connection with the project. The Summary Network Analysis Diagram shall include or address:

- A. timing of all PRECONSTRUCTION and CONSTRUCTION activities;
- B. submission of AUTHORIZATION-TO-PROCEED and NOTICE-TO-PROCEED applications;
- C. submission of all other permit applications;
- D. environmental constraints on PRECONSTRUCTION and CONSTRUCTION scheduling;
- E. submission of DESIGN CRITERIA, Project Plans and Programs and FINAL DESIGN;
- F. schedule control techniques;
- G. other pertinent data.

1.6.2. The Summary Network Analysis Diagram shall be prepared employing techniques normal to the industry in sufficient detail and scope to permit the COMMISSIONER to determine if the management approach shown or inferred by the network analysis will facilitate the cost-effective, environmentally sound, and timely CONSTRUCTION of the project consistent with the protection of public health and safety.

1.6.3. The Summary Network Analysis Diagram shall be updated to indicate current and planned activities at intervals MUTUALLY AGREED upon by the LESSEE and the COMMISSIONER.

1.7. Project Performance Standards; DESIGN CRITERIA; Project Plans and Programs

1.7.1. The LESSEE shall comply with the Project Performance Standards and the Project Plans and Programs completed pursuant to Section 2.C.(2) and Section 2.C.(3) of the "Conditional Right-of-Way Lease for the Trans-Alaska Gas System" (Exhibit B). Specific Project Plans or Programs may be updated at intervals MUTUALLY AGREED upon by the LESSEE and the COMMISSIONER.

1.7.2 DESIGN CRITERIA. The Lessee shall prepare and submit DESIGN CRITERIA for the PIPELINE and RELATED FACILITIES to the COMMISSIONER for review and written approval. The COMMISSIONER shall approve the scope, content and schedule for submission of the DESIGN CRITERIA.

1.7.3. The LESSEE shall submit the following Project Plans and Programs to the COMMISSIONER for review and approval (such plans and programs may be combined and/or cross-referenced where appropriate):

- 1. Air Quality
- 2. Blasting
- 3. Clearing
- 4. Overburden and Excess Material Disposal
- 5. River Training Structures
- 6. Surveillance and Maintenance
- 7. Visual Impact
- 8. Wetland CONSTRUCTION
- 9. Workpads, including Snow/Ice
- 10. Geologic Hazards
- 11. PIPELINE Safety Contingency
- 12. Corrosion Control
- 13. Mainline Pipeline
- 14. Groundwater

15. Pipe Ditch Excavation, Installation, Backfill
16. Pipeline Welding
17. Transportation
18. Communications
19. Liquified Natural Gas (LNG) Plant

The COMMISSIONER shall approve the scope, content and schedule for submission of the Project Plans and Programs required by this STIPULATION.

1.7.4. The Project Plans and Programs required by STIPULATION 1.7.3 may be updated at intervals MUTUALLY AGREED upon by the LESSEE and the COMMISSIONER. Additional or supplementary plans and programs may be required as specified by the COMMISSIONER if the plans or programs listed in either Section 2.C.(3) of the "Conditional Right-of-Way Lease for the Trans-Alaska Gas System" (Exhibit B) or STIPULATION 1.7.3 do not provide support for the FINAL DESIGN or do not adequately guide the conduct of PIPELINE SYSTEM activities.

1.7.5. The project plan addressing transportation as required by STIPULATION 1.7.2.17 shall include, at a minimum, identification of the CONDITIONAL LESSEE's planned utilization of the existing transportation infrastructure (such as PUBLIC ROADS/HIGHWAYS, airports, and bridges), assessment of the negative impacts of the project on public transportation, proposed mitigation including use of specific CONSTRUCTION techniques to mitigate adverse impacts, and the development of transportation impact monitoring programs to be employed during CONSTRUCTION of the PIPELINE SYSTEM.

1.7.6. Subject to existing rights vested in other parties, the LESSEE shall plan for and utilize existing FACILITIES, to the maximum extent feasible, in all PRECONSTRUCTION, CONSTRUCTION, OPERATION and TERMINATION activities associated with the PIPELINE SYSTEM.

1.7.7. The Project Plans and Programs listed in STIPULATION 1.7.3 or any additional or supplementary plans or programs that may be required pursuant to STIPULATION 1.7.4 that may affect FACILITIES that are PROXIMATE to the proposed Trans-Alaska Gas System alignment, such as the TRANS-ALASKA PIPELINE SYSTEM, other authorized OIL or GAS transportation pipeline(s), PUBLIC ROADS/HIGHWAYS, or the FACILITIES of other third party owners with valid existing rights on STATE LAND, shall be coordinated by the LESSEE with the respective owners. Evidence of coordination with such owners shall accompany the submission of applicable DESIGN CRITERIA or Project Plans or Programs.

1.8. CONCEPTUAL DESIGN

1.8.1. The CONCEPTUAL DESIGN as required by Section 2.C.(4) of the "Conditional Right-of-Way Lease for the Trans-Alaska Gas System" (Exhibit B) to be completed prior to issuance of this LEASE shall be complied with as provided by this LEASE.

1.9. FINAL DESIGN

1.9.1. Prior to or with the submission of any NOTICE-TO-PROCEED application, the LESSEE shall submit the appropriate FINAL DESIGN for review and approval by the COMMISSIONER. The COMMISSIONER and the LESSEE shall MUTUALLY AGREE upon the scope, content and schedule for submission of the FINAL DESIGN. The FINAL DESIGN shall be complied with as provided by this LEASE.

1.10. NOTICE-TO-PROCEED: Application

1.10.1. Prior to initiating any CONSTRUCTION activity on STATE LAND pursuant to this LEASE, the LESSEE must possess a valid NOTICE-TO-PROCEED, or other written authorization, issued by the COMMISSIONER. Each NOTICE-TO-PROCEED shall authorize only CONSTRUCTION activities specific to that permit. A NOTICE-TO-PROCEED may contain such site specific terms and conditions as the COMMISSIONER finds necessary to implement the provisions of this LEASE, and the LESSEE shall comply in all respects with the provisions of the NOTICE-TO-PROCEED. All NOTICES-TO-PROCEED will contain a provision requiring FIELD TURN-ON prior to initiation of activities.

1.10.2. The COMMISSIONER may issue a NOTICE-TO-PROCEED only when the COMMISSIONER has approved the FINAL DESIGN as required by STIPULATION 1.9 and the NOTICE-TO PROCEED application requirements have been appropriately reviewed.

1.10.3. The COMMISSIONER may by written order, following consultation with the LESSEE, revoke or temporarily suspend, in whole or in part, any NOTICE-TO-PROCEED which has been issued, when the LESSEE has failed to comply with the provisions of this LEASE, or when the COMMISSIONER has determined that subsequent unforeseen conditions arising out of the LESSEE's activities require amendment of the NOTICE-TO-PROCEED to ensure: (1) protection of PIPELINE SYSTEM integrity; (2) prevention of SIGNIFICANT DAMAGE to the environment; (3) protection of public health and safety; and (4) protection of public or private property from damage.

1.10.4. Prior to submission of any NOTICE-TO-PROCEED application, the LESSEE shall locate by survey and shall clearly mark on the ground the boundaries of the CONSTRUCTION ZONE as specified in Section 1.E. of this LEASE, the proposed centerline of the PIPELINE and the location of all other RELATED FACILITIES, and the clearing limits within the CONSTRUCTION ZONE in a manner acceptable to the COMMISSIONER.

1.10.5. The LESSEE will coordinate with all the owners of any PROXIMATE FACILITIES, including the TRANS-ALASKA PIPELINE SYSTEM and other authorized OIL or GAS transportation pipeline(s), to survey and/or clearly mark on the ground any relevant parts of such FACILITIES that are PROXIMATE to the proposed Trans-Alaska Gas System alignment or when any CONSTRUCTION activities could pose a threat to the integrity of such FACILITIES or their respective rights-of-way.

1.10.6. Prior to submission of any NOTICE-TO-PROCEED applications, the COMMISSIONER and the LESSEE shall MUTUALLY AGREE upon a schedule for submission, review and approval of such applications. The schedule shall allow the COMMISSIONER 60 days for review of each complete NOTICE-TO-PROCEED application, unless the COMMISSIONER gives written notice that more time is required. The schedule shall be revised at intervals MUTUALLY AGREED upon by the LESSEE and the COMMISSIONER.

1.10.7. Each application for a NOTICE-TO-PROCEED shall be accompanied by the following:

A. a detailed network analysis diagram including work schedules, permits or authorizations required and their interrelationships, design and review periods, data collection activities and CONSTRUCTION sequencing, which shall be updated to reflect current status of the activity;

B. applicable FINAL DESIGN;

C. all data necessary to demonstrate compliance with the terms and conditions of this LEASE with respect to the proposed activity including permits or authorizations required by appropriate Federal or State agencies;

D. all reports and results of environmental analysis including subsistence issues, conducted or considered by the LESSEE;

E. a scaled site plan, map(s) or drawings, acceptable to the COMMISSIONER, depicting:

(1) the proposed location of all PIPELINE and/or RELATED FACILITIES components to be constructed;

(2) the boundaries of the CONSTRUCTION ZONE;

(3) the boundaries of the clearing limits and temporary use areas;

(4) the relative location of all existing FACILITIES of third party owners with valid existing rights on STATE LAND, including the TRANS-ALASKA PIPELINE SYSTEM, that are PROXIMATE to the PIPELINE and RELATED FACILITIES;

(5) all drainages;

(6) trails and other access routes;

(7) other pertinent information sufficient to identify potential conflicts with existing land uses and state and private property interests;

F. a separate analysis which addresses and evaluates the effects of the PIPELINE SYSTEM and proposed activity on the TRANS-ALASKA PIPELINE SYSTEM, or other authorized OIL or GAS transportation pipeline(s);

G. an analysis which describes systems designed to ensure protection of the Trans-Alaska Pipeline System, other OIL or GAS transportation pipeline(s), or other existing FACILITIES that are PROXIMATE to the PIPELINE SYSTEM from damage arising from CONSTRUCTION, OPERATION and TERMINATION activities of the PIPELINE SYSTEM;

H. evidence that the LESSEE has coordinated with the owners, agents and /or operators of the TRANS-ALASKA PIPELINE SYSTEM, other OIL or GAS

transportation pipeline, or any other existing or proposed FACILITIES as may be required by the COMMISSIONER;

I. the specific quality control program for all activities included in the application for a NOTICE-TO-PROCEED including what special precautions the LESSEE will execute when conducting activities in PROXIMITY to existing FACILITIES of the TRANS-ALASKA PIPELINE SYSTEM and other authorized OIL or GAS transportation systems; and,

J. other pertinent data as may be requested by the COMMISSIONER either prior to submission of the application for an NOTICE-TO-PROCEED or at any time during the review period.

1.10.7. A NOTICE-TO-PROCEED shall not be issued until the COMMISSIONER has approved

A. all relevant locations on the ground and temporary boundary markers have been set by the LESSEE to the satisfaction of the COMMISSIONER; and,

B. all the submittals required by STIPULATION 1.7, 1.8, and 1.9.

1.11. Quality Assurance and Control

1.11.1. The approved quality assurance and quality control program as required pursuant to Section 1.I of the LEASE and STIPULATION 1.7.3 shall be comprehensive and designed to ensure that the applicable requirements of 49 CFR Part 192 and the provisions of this LEASE will be complied with during PRECONSTRUCTION, CONSTRUCTION, OPERATION, and TERMINATION of the PIPELINE SYSTEM. The LESSEE shall provide for continuous inspection during PRECONSTRUCTION and CONSTRUCTION of the PIPELINE SYSTEM to ensure compliance. The term "continuous inspection" as used in this STIPULATION means that at least one inspector shall observe each PRECONSTRUCTION or CONSTRUCTION activity at all times where PIPELINE SYSTEM integrity is involved while that PRECONSTRUCTION or CONSTRUCTION activity is being performed, or where such activities are PROXIMATE to the TRANS-ALASKA PIPELINE SYSTEM, or other constructed OIL or GAS transportation pipeline(s).

1.11.2. At a minimum, the following shall be included in the quality assurance program:

A. Procedures for the detection and prompt abatement of any actual or potential procedure, activity, event or condition, of an adverse nature that:

(1) is susceptible to abatement by the LESSEE;

(2) could reasonably be expected to arise out of, or affect adversely, the PRECONSTRUCTION, CONSTRUCTION, OPERATION, or TERMINATION of all or any part of the PIPELINE SYSTEM; and

(3) that at any time may cause or threaten to cause:

(a) hazard to the safety and health of workers or to public health or safety, including but not limited to personal injury or loss of life of any person;

(b) SIGNIFICANT DAMAGE to the environment, including but not limited to areas of vegetation or timber, fish or other wildlife populations or their habitats, subsistence use, or any other natural resource;

(c) damage to or destruction of existing private or public improvements on or in the general vicinity of the Right-of-Way area;

B. Procedures for the relocation, repair or replacement of improved or tangible property and the rehabilitation of natural resources (including but not limited to REVEGETATION, restocking fish or other wildlife populations, and reestablishing their habitats) seriously damaged or destroyed if the immediate cause of the damage or destruction results from PRECONSTRUCTION, CONSTRUCTION, OPERATION, or TERMINATION of any part of the PIPELINE SYSTEM;

C. Methods and procedures for achieving component and subsystems quality through proper design specification;

D. Methods for applying quality assurance and quality control criteria in the selection of the LESSEE's contractors and subcontractors, and contract purchases of materials and services;

E. A plan for collecting, recording, storing, retrieving, and reviewing data to assure that quality has been attained, including procedures for initiating and maintaining adequate records of inspections, identification of deviations and completion of corrective actions;

F. Specific methods of detecting deviations from designs, plans, regulations, specifications and LEASE and permit terms and conditions (including establishing effective procedures for timely evaluation and correction of field nonconformance problems) as the basis for initiating corrective action to preclude or rectify the hazards, harm or damage referenced in STIPULATION 1.11.2(A)(3);

G. Inspection, testing and acceptance of components, subsystems and subassemblies;

H. A plan for conducting surveys and field inspections of all FACILITIES, processes and procedures of the LESSEE, its contractors, subcontractors, vendors and suppliers critical to the achievement of quality.

1.11.3. The LESSEE, its agents, employees, contractors and subcontractors (at any tier) shall comply with the quality assurance and quality control programs as approved and the LESSEE shall submit quarterly reports to the COMMISSIONER, unless otherwise requested by the COMMISSIONER.

1.12. Surveillance and Maintenance

1.12.1. During the PRECONSTRUCTION, CONSTRUCTION, OPERATION, and TERMINATION of the PIPELINE SYSTEM, the LESSEE shall develop and implement a surveillance and maintenance program as required pursuant to Section 1.1 of the LEASE and STIPULATION 1.7.3. At minimum, this program shall, with respect to the LESSEE's

activities, be designed to maintain PIPELINE SYSTEM integrity, protect public health and safety, protect the environment, and public and private property and improvements.

1.12.2. The LESSEE shall maintain complete updated records on PRECONSTRUCTION, CONSTRUCTION, OPERATION, and TERMINATION activities performed in connection with the PIPELINE SYSTEM. Such records shall include surveillance data, leak and failure records, necessary operational data, modification records, and such other data as may be required by 49 CFR, 191 and 192 and other applicable State and Federal laws and regulations.

1.13. Public and Private Improvements

1.13.1. The LESSEE shall provide reasonable protection to existing public or private improvements which may be adversely affected by its activities or those of its agents, employees, contractors or subcontractors (at any tier) during PRECONSTRUCTION, CONSTRUCTION, OPERATION, and TERMINATION of the PIPELINE SYSTEM. The LESSEE shall, specifically, take all reasonable precautions to protect the TRANS-ALASKA PIPELINE SYSTEM, or any other authorized OIL or GAS transportation pipeline(s), or PUBLIC ROADS/HIGHWAYS from damage or destruction caused by the LESSEE during PRECONSTRUCTION, CONSTRUCTION, OPERATION and TERMINATION of the PIPELINE SYSTEM. The LESSEE shall notify the COMMISSIONER and the owner(s) of such FACILITIES of any procedure, activity, event, or condition which causes or threatens to cause damage to or destruction of such FACILITIES. If it is determined that the LESSEE has caused damage to such public and private improvements, and if the owners require, then the LESSEE shall promptly repair, or reimburse the owner for reasonable costs in repairing the property to a condition which is satisfactory to the owner, but need not exceed its condition prior to damage.

1.14. Health and Safety

1.14.1. The LESSEE shall take measures necessary to protect the health and safety of all persons directly affected by activities performed by the LESSEE in connection with PRECONSTRUCTION, CONSTRUCTION, OPERATION, or TERMINATION of the PIPELINE SYSTEM, and immediately abate any health or safety hazards. The LESSEE shall promptly notify the COMMISSIONER of all serious accidents which occur in connection with PIPELINE SYSTEM activities.

1.15. Survey Requirements

1.15.1. LESSEE shall not disturb any survey monuments encountered during PRECONSTRUCTION, CONSTRUCTION, OPERATION, and TERMINATION of the PIPELINE SYSTEM, unless otherwise approved in writing by the COMMISSIONER.

1.15.2. In the event that any monuments or accessories are inadvertently damaged or destroyed during the PRECONSTRUCTION, CONSTRUCTION, OPERATION or TERMINATION of the PIPELINE SYSTEM, the LESSEE shall immediately notify the COMMISSIONER, and shall employ a qualified land surveyor to reestablish or restore same in accordance with the standards of the STATE, the Bureau of Land Management, or other standards.

1.16. Public Access

1.16.1. The LESSEE shall not block or restrict public access to existing airstrips, landing areas, roads, trails, or waterways in any way on STATE LAND, except as provided in this Section. Specifically, the LESSEE shall not block or restrict public marine access in any way in Anderson Bay or elsewhere offshore of the Liquefied Natural Gas Plant/Marine Terminal site except within the boundaries of the Right-of-Way.

1.16.2. During CONSTRUCTION or TERMINATION activities, the LESSEE may regulate or prohibit public access to or upon any ACCESS ROAD or workpad area being used for such activity. At all other times, LESSEE shall permit free and unrestricted public access to and upon ACCESS ROADS, workpad areas, and all other areas within the Right-of-Way, except that with the written consent of the COMMISSIONER, the LESSEE may regulate or prohibit public access and vehicular traffic on ACCESS ROADS or workpad areas as specified in STIPULATION 1.7.3. The LESSEE shall provide appropriate warnings, flagmen, barricades and other safety measures or otherwise ensure public safety when using ACCESS ROADS or regulating or prohibiting public access to or upon ACCESS ROADS.

1.16.3. During CONSTRUCTION of the PIPELINE SYSTEM, the LESSEE shall provide alternative routes for existing roads and trails at locations and to standards as determined by the COMMISSIONER, whether or not these roads or trails are recorded. These roads and trails shall be restored to their original location and to their previous condition upon completion of all CONSTRUCTION activities. In addition, the LESSEE shall make provisions for suitable permanent crossings for the public at locations and to standards approved in writing by the COMMISSIONER, where the Right-of-Way crosses existing roads, foot-trails, winter trails, or other existing rights-of-way, including those validly established pursuant to 43 U.S.C. 932 prior to October 21, 1976. In addition, the LESSEE shall plan for, and consider in design, any primary and secondary highway crossings proposed by the State of Alaska Department of Transportation and Public Facilities which have received funding for construction.

1.16.4. After completion of CONSTRUCTION of the PIPELINE SYSTEM, the LESSEE may request to designate certain areas of the Right-of-Way to which the public will not have free and unrestricted access. The LESSEE may request to regulate or prohibit public access and vehicular traffic on such areas of the Right-of-Way to facilitate operations or to protect the public, wildlife or livestock from hazards associated with OPERATION of the PIPELINE SYSTEM. The LESSEE shall post, gate, fence or otherwise restrict public access as directed by the COMMISSIONER.

1.17. Fire Prevention and Suppression

1.17.1. The LESSEE shall promptly notify the COMMISSIONER and the owners of the TRANS-ALASKA PIPELINE SYSTEM of any fires which may threaten any portion of the PIPELINE SYSTEM, the TRANS-ALASKA PIPELINE SYSTEM, or any other authorized OIL or GAS transportation pipeline, and shall take all measures necessary or appropriate for the prevention and suppression of fires in accordance with applicable law and the approved fire control plan required pursuant to Section 1.1 of the LEASE and STIPULATION 1.7.3. The LESSEE shall comply with the instructions and directions of the COMMISSIONER concerning the use, prevention and suppression of fires on STATE LAND. Use of open fires in connection with the PRECONSTRUCTION, CONSTRUCTION, OPERATION, and TERMINATION of the PIPELINE SYSTEM is prohibited on STATE LAND unless

authorized in writing by the COMMISSIONER. The LESSEE shall assume full liability for any damages to the STATE resulting from fires caused by the LESSEE's activities.

1.18. Communications

1.18.1. The LESSEE shall provide a communication capability that ensures the transmission of information required for the safe CONSTRUCTION, OPERATION and TERMINATION of the PIPELINE SYSTEM in accordance with the approved communication plan required pursuant to Section 1.1 of the LEASE and STIPULATION 1.7.3.

1.18.2. The LESSEE shall, as necessary, screen, filter, or otherwise suppress any electronically operated devices installed as part of the PIPELINE SYSTEM which are capable of producing electromagnetic interference radiations so that such devices will not adversely affect the functioning of existing communications systems, navigational aids, or similar systems. The LESSEE shall not obstruct radiation patterns of existing line-of-sight communications systems, navigational aids, or similar systems.

1.19. Cultural Resources

1.19.1. The LESSEE shall undertake the affirmative responsibility to identify, protect and preserve cultural, historic, prehistoric and archaeological resources that may be impacted by its activities in the overall construction project in the State of Alaska on both Federal and non-Federal lands consistent with the National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470, et seq., and the implementing procedures of the Advisory Council on Historic Preservation, 36 CFR Part 800. This responsibility will be executed in a manner consistent with the terms of a Memorandum of Agreement, under Section 106 of the National Historic Preservation Act of 1966, 16 U.S.C. 470f, as amended, between the Advisory Council on Historic Preservation, the State Historic Preservation Officer, and the appropriate Federal and State officials, and developed in consultation with the LESSEE. The terms of such Memorandum of Agreement, except as otherwise mandated by law, shall not compel a change in the basic nature and general route of the approved transportation system or otherwise prevent or impair in any significant respect the expeditious CONSTRUCTION and initial OPERATION of the transportation system.

1.20. Hunting, Fishing, Trapping

1.20.1. The LESSEE shall inform its employees, agents, contractors, subcontractors and their employees of the applicable laws and regulations relating to hunting, fishing, trapping, feeding and harassment of wildlife.

1.21. Changes in Conditions

1.21.1. The COMMISSIONER may require the LESSEE to make such modification of the PIPELINE SYSTEM during PRECONSTRUCTION, CONSTRUCTION, OPERATION and TERMINATION without liability or expense to the STATE as deemed necessary to:

- A. protect or maintain stability of foundation and geologic materials;
- B. protect or maintain integrity of the PIPELINE SYSTEM;

C. prevent SIGNIFICANT DAMAGE to the environment (including, but not limited to fish and wildlife populations or their habitats);

D. protect or maintain subsistence resources;

E. remove hazards to public health and safety; protect the TRANS-ALASKA PIPELINE SYSTEM, or any authorized OIL or GAS transportation pipeline, or other FACILITIES of third party owner with valid existing rights on STATE LAND from the adverse effects of the LESSEE's activities, including the activities of the LESSEE's agents, employees, contractors, subcontractors and the employees of each of them.

1.21.2. Unforeseen conditions arising during PRECONSTRUCTION, CONSTRUCTION, OPERATION or TERMINATION of the PIPELINE SYSTEM may make it necessary to revise or amend these STIPULATIONS to control or prevent damage to the environment (including fish and wildlife and/or their habitats), to protect or maintain subsistence use or prevent hazards to public health and safety. In that event, the LESSEE and the COMMISSIONER shall MUTUALLY AGREE as to what revisions or amendments shall be made.

SECTION 2. ENVIRONMENTAL STIPULATIONS

2.1. Environmental Briefings

2.1.1. The LESSEE shall develop and provide environmental briefings pursuant to Section 1.I of the LEASE and STIPULATION 1.7.3, for all supervisory employees, and all employees, agents, contractors or subcontractors and their employees that will be engaged in field activities.

2.2. Pollution Control

2.2.1. The LESSEE shall ensure that degradation of air, land and water quality is minimized or avoided when conducting PRECONSTRUCTION, CONSTRUCTION, OPERATION and TERMINATION activities related to the PIPELINE SYSTEM; the LESSEE shall comply with applicable State of Alaska air and water quality standards, as promulgated by the State of Alaska Department of Environmental Conservation and with the requirements of the Environmental Protection Agency's National Pollutants Discharge Elimination System discharge permit program, and all other Federal and State laws and regulations relating to pollution control or prevention, in accordance with the approved environmental plans required pursuant to Section 1.I of the LEASE and STIPULATION 1.7.3.

2.2.2. Air and Water Pollution

2.2.2.1. The LESSEE shall utilize and operate all FACILITIES and devices used in connection with the PIPELINE SYSTEM so as to avoid or minimize ice fog. FACILITIES or devices which cannot be prevented from producing ice fog shall be located so as to minimize interference with airfields, communities or roads.

2.2.2.2. All activities employing wheeled or tracked vehicles or other equipment are prohibited in lakes, WETLANDS, streams or rivers unless such activity is approved in writing by the COMMISSIONER.

2.2.2.3. Natural ground temperature or natural surface water/groundwater temperature shall not be changed significantly by the PIPELINE SYSTEM or by any CONSTRUCTION related activity unless authorized by permit from the State of Alaska Department of Environmental Conservation.

2.2.2.4. The LESSEE shall comply with thermal pollution standards pursuant to State of Alaska water quality standards as promulgated by the State of Alaska Department of Environmental Conservation.

2.2.3. Pesticides, Herbicides and Other Chemicals

2.2.3.1. Where possible LESSEE shall use non persistent and immobile types of pesticides, herbicides and other chemicals in accordance with the approved pesticides, herbicides, chemicals plan required pursuant to Section 1.I of the LEASE and STIPULATION 1.7.3. Only those pesticides and herbicides currently registered by the Environmental Protection Agency pursuant to the Federal Insecticide, Fungicide and Rodenticide Act shall be applied. Applications of pesticides and herbicides shall be in accordance with label directions approved by the Environmental Protection Agency. Each chemical to be used and its application constraints shall be authorized by permit from the State of Alaska Department of Environmental Conservation.

2.2.4. WASTE Disposal

2.2.4.1. All WASTE generated in PRECONSTRUCTION, CONSTRUCTION, OPERATION and TERMINATION of the of the PIPELINE SYSTEM shall be removed or otherwise disposed of in a manner acceptable to the COMMISSIONER. All applicable Federal and State requirements shall be incorporated into the approved solid and liquid WASTE management plans required pursuant to Section 1.I of the LEASE and STIPULATION 1.7.3.

2.2.5. HAZARDOUS SUBSTANCES Discharge--Reporting, Prevention, Control, Cleanup and Disposal

2.2.5.1. The LESSEE shall give notice in accordance with applicable law of any spill, leakage, or discharge of a HAZARDOUS SUBSTANCE in connection with the PRECONSTRUCTION, CONSTRUCTION, OPERATION and TERMINATION of the PIPELINE SYSTEM to 1) the COMMISSIONER and 2) such other Federal or State officials as are required by law to be given such notice.

2.2.5.2. Any oral notice shall be confirmed in writing within 24 hours. The LESSEE may group small spills on STATE LAND in accordance with State of Alaska Department of Environmental Conservation requirements and shall report them on a weekly basis to the COMMISSIONER.

2.2.5.3. The LESSEE shall develop a HAZARDOUS SUBSTANCES control, cleanup and disposal plan to the COMMISSIONER pursuant to Section 1.I of the LEASE and STIPULATION 1.7.3., and where applicable, in accordance with 40 CFR, Part 112. The plan shall, at a minimum, identify all areas where HAZARDOUS SUBSTANCES are stored, utilized, transported or distributed. The plan shall address fuel distribution systems, storage and containment, containerized products, leak detection systems, handling procedures, training programs, provisions

for collection, storage and ultimate disposal of waste oil, cleanup methods, and disposal sites. The plan shall be approved in writing by the COMMISSIONER and the LESSEE shall demonstrate its capability and readiness to execute the plan to the satisfaction of the COMMISSIONER.

2.3. Buffer Strips

2.3.1. No CONSTRUCTION activity in connection with the PIPELINE SYSTEM shall be conducted within one-half (1/2) mile of any officially designated Federal, State, Borough or Municipal park, wildlife refuge, wildlife range, critical habitat area, game sanctuary, research natural area, recreation area or site, wilderness area, wild and/or scenic river or any registered National Historic Site, National Landmark or Natural Landmark unless such activity is approved in writing by the COMMISSIONER.

2.3.2. All components of the PIPELINE SYSTEM shall be located so as to provide buffer strips of undisturbed land at least 500 feet wide between those PIPELINE SYSTEM components and any streams, rivers or lakes, unless otherwise approved in writing by the COMMISSIONER.

2.3.3. Undisturbed buffer strips at least 500 feet wide shall be maintained between material sites and PUBLIC ROADS/HIGHWAYS unless otherwise approved in writing by the COMMISSIONER.

2.4. Erosion and Sedimentation Control

2.4.1. General

2.4.1.1. The LESSEE shall minimize surface disturbance within the Right-of-Way and on STATE LAND adjacent to the Right-of-Way when conducting all PIPELINE SYSTEM activities; the LESSEE shall minimize damage to vegetation, including the organic mat, in an effort to prevent thermal degradation and hydraulic erosion.

2.4.1.2. Erosion and sedimentation control measures to be utilized shall be determined in the appropriate plans required pursuant to Section 1.1 of the LEASE and STIPULATION 1.7.3. Site-specific measures shall be determined in the field prior to submission of the FINAL DESIGN as required by STIPULATION 1.9. Such measures shall include, but shall not be limited to erosion control structures, REVEGETATION, placement of mat binders, soil binders, rock or gravel blankets, or other structures.

2.4.1.3. The use of temporary and permanent erosion control structures shall be implemented in accordance with the appropriate plan required pursuant to Section 1.1 of the LEASE and STIPULATION 1.7.3. for the purpose of limiting induced and accelerated erosion, limiting sedimentation and reducing the possible formation of new drainage channels. The design of such erosion control structures shall be based on the rainfall rate/snowmelt combination characteristic of the region, the effects of thawing produced by flowing or ponded water on permafrost, and the effects of ice. Permanent erosion control structures shall be designed to accommodate a 50-year flood.

2.4.2. Stream, River, Floodplain and WETLAND Crossings

2.4.2.1. The LESSEE shall minimize the number of stream, river, floodplain or WETLAND crossings as a PIPELINE SYSTEM design criterion in accordance with the approved stream, river, floodplain and WETLAND crossing plan required pursuant to Section 1.1 of the LEASE and STIPULATION 1.7.3.

2.4.2.2. The LESSEE shall minimize erosion and sedimentation at and downstream from all stream, river and WETLAND crossings and those portions of PIPELINE SYSTEM components that are located within floodplains.

2.4.2.3. Temporary access over streambanks prior to and following ditch excavation shall be made through use of fill ramps rather than by cutting through streambanks, unless otherwise approved in writing by the COMMISSIONER. The LESSEE shall remove such ramps upon termination of seasonal or final use. Ramp materials shall be disposed of in a manner approved in writing by the COMMISSIONER.

2.4.2.4. The LESSEE shall plan the timing and location of stream, river, floodplain or WETLAND crossings during CONSTRUCTION of the PIPELINE SYSTEM so as to minimize impacts to fish and wildlife populations, habitats and uses.

2.4.3. Excavated Material

2.4.3.1. Excavated material in excess of that required to backfill around any structure, including the PIPELINE, or unsuitable for backfill or for RESTORATION purposes, shall be disposed of in accordance with the approved overburden and excess material disposal plan required pursuant to Section 1.1 of the LEASE and STIPULATION 1.7.3.

2.4.3.2. Surface materials taken from disturbed areas shall be stockpiled and utilized for RESTORATION activities unless unsuitable for such purposes, or unless otherwise approved by the COMMISSIONER.

2.4.3.3. Excavated materials shall not be stockpiled in rivers, streams, on floodplains, in WETLANDS or on ice unless approved in writing by the COMMISSIONER. Stockpiling in WETLANDS shall be conducted in accordance with the approved stream, river, floodplain and WETLAND crossing plan required pursuant to Section 1.1 of the LEASE and STIPULATION 1.7.3.

2.5. Fish and Wildlife Protection

2.5.1. Fish

2.5.1.1. During PRECONSTRUCTION, CONSTRUCTION, OPERATION, and TERMINATION of the PIPELINE SYSTEM, the LESSEE shall ensure that there exists free passage and movement of fish in streams designated by the COMMISSIONER. Temporary blockages of fish necessitated by instream activities may be approved. PRECONSTRUCTION and CONSTRUCTION planning required by the Network Analysis Diagrams and NOTICE-TO-PROCEED applications as provided in STIPULATION 1.10 shall include the time and place that such temporary blockages may occur.

2.5.1.2. Pump intakes shall be screened to prevent harm to fish. Screening specifications shall be approved by the COMMISSIONER.

2.5.1.3. When abandoned, water diversion structures shall be removed or plugged and stabilized, unless otherwise approved in writing by the COMMISSIONER.

2.5.1.4. The LESSEE shall avoid disturbances to those FISH SPAWNING AREAS, FISH REARING AREAS, and FISH OVERWINTERING AREAS designated by the COMMISSIONER. However, where disturbances cannot be avoided, proposed modifications and appropriate mitigation measures shall be designed by the LESSEE and approved in writing by the COMMISSIONER.

2.5.1.5. The LESSEE shall protect FISH SPAWNING AREAS, FISH REARING AREAS, and FISH OVERWINTERING AREAS from sediment where soil material is expected to be suspended in water as a result of PRECONSTRUCTION or CONSTRUCTION activities. Settling basins or other sediment control structures shall be constructed and maintained to intercept such sediment before it reaches rivers, streams, lakes or WETLANDS.

2.5.1.6. The LESSEE shall comply with any site-specific terms and conditions imposed by the COMMISSIONER pursuant to any PIPELINE SYSTEM related authorization to protect FISH SPAWNING AREAS, FISH REARING AREAS, and FISH OVERWINTERING AREAS from the effects of LESSEE's activities. If material sites are approved adjacent to or in lakes, rivers, streams, WETLANDS, or floodplains, the COMMISSIONER may require the LESSEE to construct levees or berms or employ other suitable means to protect fish and fish passage and to prevent or minimize sedimentation. The LESSEE shall repair damage to such areas caused by PRECONSTRUCTION, CONSTRUCTION, OPERATION, or TERMINATION of the PIPELINE SYSTEM to the satisfaction of the COMMISSIONER as stated in writing.

2.5.1.7. The LESSEE shall not take water from FISH SPAWNING AREAS, FISH REARING AREAS, and FISH OVERWINTERING AREAS or waters that directly replenish those areas during critical periods that will be defined by the COMMISSIONER, unless otherwise approved by the COMMISSIONER.

2.5.2. Big Game Movements

2.5.2.1. The LESSEE shall design, construct and operate both the buried and above ground sections of the PIPELINE so as to assure free passage and movement of big game animals.

2.5.3. Zones of Restricted Activities

2.5.3.1. Activities of the LESSEE in connection with PRECONSTRUCTION, CONSTRUCTION, OPERATION, and TERMINATION of the PIPELINE SYSTEM in key fish and wildlife areas and in specific areas where threatened or endangered species of animals are found may be restricted by the COMMISSIONER during periods of fish and wildlife breeding, nesting, spawning, lambing and calving activity, overwintering, and during major migrations of fish and wildlife. The COMMISSIONER shall provide the LESSEE written notice of such restrictive action. At least annually and as far in advance of such restrictions as is possible, the

COMMISSIONER shall furnish the LESSEE an updated list of those areas where such actions may be required, together with anticipated dates of restriction.

2.5.3.2. The COMMISSIONER may identify a zone of restricted activity near the Franklin Bluffs airstrip where the LESSEE may be required to use flight paths that avoid disturbance to peregrine falcons during nesting season.

2.6. Material Sites

2.6.1. Material sites are not authorized by this LEASE, but may be authorized by other instruments pursuant to AS 38.05. A full and complete mining plan will be required for submission with each material site application. The material site plan required pursuant to Section 1.I of the LEASE and STIPULATION 1.7.3. shall address, at a minimum, the availability of materials, extraction impacts, proposed mitigation, and restoration.

2.7. Clearing

2.7.1. Boundaries

2.7.1.2. The LESSEE shall clearly identify clearing boundaries on the ground within the CONSTRUCTION ZONE and such boundaries shall be approved by the COMMISSIONER prior to initiating any clearing activities as specified by STIPULATION 1.10.4. All timber and other vegetative material outside the clearing boundaries and all blazed, painted or posted trees which are on or mark clearing boundaries shall be reserved from cutting and removal with the exception of trees or snags designated by LESSEE and approved by the COMMISSIONER.

2.7.2. Timber

2.7.2.1. Prior to initiating clearing activities, the LESSEE shall notify the COMMISSIONER in writing of the location of any merchantable timber which will be disposed of in the CONSTRUCTION, OPERATION, or TERMINATION activities of the PIPELINE SYSTEM and the LESSEE shall pay to the STATE in advance of removal activity, such sum of money as the COMMISSIONER determines to be the full stumpage value of the timber to be disposed of.

2.7.2.2. All nonmerchantable timber, slash or other vegetative material removed during clearing shall be disposed of in accordance with the approved clearing plan required pursuant to Section 1.I of the LEASE and STIPULATION 1.7.3. and to the satisfaction of the COMMISSIONER.

2.7.2.3. All trees, snags and other wood material cut in connection with clearing activities shall be cut so that the resulting stumps will not be higher than six (6) inches measured from the ground on the uphill side.

2.7.2.4. All trees, snags and other wood materials cut in connection with clearing operations shall be felled into the area within the clearing boundaries and away from all watercourses.

2.7.2.5. Hand clearing shall be used in areas where the COMMISSIONER determines that use of heavy equipment would be detrimental to existing conditions.

2.7.2.6. Any debris resulting from clearing operations that may block stream flow, delay or block fish passage, contribute to flood damage or result in streambed scouring or erosion shall be removed within 48 hours unless otherwise directed by the COMMISSIONER.

2.7.2.7. Logs shall not be skidded or yarded across any stream without the written approval of the COMMISSIONER.

2.7.2.8. To prevent the spreading of spruce bark beetles, all spruce slash shall be disposed of prior to the start of the thaw season following the cutting of the slash, to the satisfaction of the COMMISSIONER.

2.8. Disturbance of Natural Drainage and Water Use

2.8.1. All PIPELINE SYSTEM activities of the LESSEE that may create new lakes, drain existing lakes, significantly divert natural drainages and surface runoff, permanently alter stream or groundwater hydrology, or disturb significant areas of stream beds are prohibited unless such activities, along with necessary mitigative measures, are approved in writing by the COMMISSIONER.

2.8.2. The LESSEE shall not develop any wells or surface water sources on State or Federal land for use during PRECONSTRUCTION, CONSTRUCTION, OPERATION, or TERMINATION of the PIPELINE SYSTEM without prior application to and approval by the COMMISSIONER in accordance with A.S. 46.15.

2.9. Off Right-of-Way Travel

2.9.1. All activities employing wheeled or tracked vehicles or other equipment on STATE LAND off the Right-of-Way, or off any roads or trails or off any other authorized areas are prohibited unless approved in writing by the COMMISSIONER, or when necessary to prevent immediate harm to any person or property.

2.9.2. Where such activities are authorized, existing roads and trails shall be used whenever possible to minimize surface disturbance (including damage to the vegetation and resulting erosion) during all PRECONSTRUCTION, CONSTRUCTION, OPERATION or TERMINATION activities within the Right-of-Way or within other authorized areas adjacent to the Right-of-Way.

2.10. Visual Resources

2.10.1. The LESSEE shall assess the visual impacts of the PIPELINE SYSTEM and shall provide mitigative measures that ameliorate those identified impacts in planning all PRECONSTRUCTION, CONSTRUCTION, OPERATION and TERMINATION activities of the PIPELINE SYSTEM. The LESSEE shall submit a visual impact plan for the PIPELINE SYSTEM pursuant to Section 1.I of the LEASE and STIPULATION 1.7.3.

2.11. Use of Explosives

2.11.1. The LESSEE shall prepare a blasting plan for storage and use, including blasting techniques, of explosives pursuant to Section 1.I of the LEASE and STIPULATION 1.7.3.

2.11.2. No blasting shall be conducted in streams, rivers or lakes, or within one quarter (1/4) mile of identified fish or wildlife resources without written approval of the COMMISSIONER.

2.11.3. Timing and location of blasting shall be approved by the COMMISSIONER.

2.12. RESTORATION

2.12.1. Upon completion of any PRECONSTRUCTION, CONSTRUCTION, OPERATION or TERMINATION activities of the PIPELINE SYSTEM, the LESSEE shall remove all improvements, equipment and/or materials from the Right-of-Way, or any part thereof, and shall RESTORE all disturbed areas on STATE LAND in accordance with the approved schedules developed pursuant to STIPULATION 1.6. and the approved RESTORATION plan required pursuant to Section 1.I of the LEASE and STIPULATION 1.7.3. RESTORATION performed by the LESSEE shall be inspected and approved in writing by the COMMISSIONER subsequent to completion of RESTORATION activities. All RESTORATION measures shall be accomplished as soon as practicable after completion of PRECONSTRUCTION and CONSTRUCTION activities.

2.12.2. Unless otherwise directed by the COMMISSIONER, all disturbed areas on STATE LAND pending RESTORATION shall be left in such stabilized condition that erosion will be minimized through such means as adequately designed and constructed waterbars, REVEGETATION and chemical surface control; culverts and bridges shall be removed; and slopes shall be RESTORED by the LESSEE in a manner satisfactory to the COMMISSIONER.

2.12.3. Where the PIPELINE Right-of-Way crosses streams or rivers, or crosses or is PROXIMATE to PUBLIC ROADS/HIGHWAYS, the PIPELINE Right-of-Way shall be screened with native plant species which have been established over the disturbed area for the purpose of ameliorating visual impact, unless otherwise approved in writing by the COMMISSIONER; where the PIPELINE crosses PUBLIC ROADS/HIGHWAYS and other roads designated by the COMMISSIONER, the PIPELINE shall be clearly marked as required in 49 CFR 192.707.

2.12.4. REVEGETATION of disturbed areas of STATE LANDS shall be accomplished as soon as practicable in accordance with approved schedules developed pursuant to STIPULATION 1.6 and the approved RESTORATION plan required pursuant to Section 1.I of the LEASE and STIPULATION 1.7.3. REVEGETATION performed by the LESSEE shall be inspected and approved in writing by the COMMISSIONER subsequent to completion of REVEGETATION activities.

2.12.5. The LESSEE shall maintain all restored areas of STATE LAND in accordance with the approved RESTORATION plan required pursuant to Section 1.I of the LEASE and STIPULATION 1.7.3.

2.13. PIPELINE Contingency Plan

2.13.1. The LESSEE shall develop a PIPELINE contingency plan pursuant to Section 1.I of the LEASE and STIPULATION 1.7.3. The plan shall conform to the requirements of 49 CFR, Sections 192.605 and 192.615 and shall outline the steps to be taken in the event of a failure, leak or explosion in the PIPELINE. The LESSEE shall demonstrate its capability and readiness to execute the plan to the satisfaction of the COMMISSIONER.

2.13.2. The LESSEE shall, as appropriate, update the plan and methods of implementation thereof, which shall be submitted annually to the COMMISSIONER.

SECTION 3. TECHNICAL STIPULATIONS

3.1. PIPELINE SYSTEM Standards

3.1.1. All design, material, CONSTRUCTION, inspection, initial testing, OPERATION, maintenance, and TERMINATION practices employed in the PIPELINE and RELATED FACILITIES shall be in accordance with safe and proven engineering practice and shall meet or exceed the following standards:

A. U.S. Department of Transportation regulations, 49 CFR Part 192, "Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards";

B. American National Standards Institute Code B 31.8, Gas Transmission and Distribution Piping Systems; and

C. ASME Gas Piping Standard Committee, latest edition: "Guide for gas Transmission and Distribution Piping System";

D. U.S. Department of Transportation regulations, 49 CFR Part 191, "Transportation of Natural and Other Gas by Pipeline; Annual Reports and Incident Reports";

E. U.S. Department of Transportation regulations, 49 CFR Part 193, "Liquefied Natural Gas Facilities: Federal Safety Standards".

3.1.2. Requirements in addition to those set forth in STIPULATION 3.1.1. may be imposed by the COMMISSIONER as necessary to reflect the impact of arctic and subarctic environments. If any standard contains a provision which is inconsistent with a provision in another standard, the more stringent standard shall apply. The COMMISSIONER shall make every effort to identify such additional requirements during the design phase.

3.2. Special Standards

3.2.1. The PIPELINE design for CONSTRUCTION in environmentally sensitive areas designated by the COMMISSIONER, shall provide for minimum maintenance needs to reduce reentry requirements.

3.2.2. All practicable means shall be utilized to avoid undue and unnecessary degradation to the ground organic layer.

3.2.3. PIPELINE design shall include special design to avoid or limit pipe crack propagation.

3.2.4. The LESSEE shall inspect 100 percent where practicable, but not less than 90 percent of the main line girth welds using radiographic or other nondestructive inspection techniques to assure compliance with the defect acceptability standards in 49 CFR Part 192. Where radiography is used, x-ray radiography will be used, unless otherwise approved by the COMMISSIONER.

3.2.5. Welder qualification tests shall be by destructive means, in accordance with Section 3 of API 1104, except that operators of automatic welding equipment may be qualified by radiography. Welder qualification tests for station piping FACILITIES may alternately be in accordance with ASME Boiler and Pressure Vessel Code, Section 9.

3.2.6. The PIPELINE design shall provide for sectionalizing block valves, protective devices to prevent overpressuring, and other safety devices installed at locations required by 49 CFR Part 192, or as may be designated by the COMMISSIONER during the DESIGN CRITERIA reviews to accommodate potentially hazardous areas, other FACILITIES, and environmental values.

3.3. Standards for ACCESS ROADS

3.3.1. ACCESS ROADS shall be designed, constructed, maintained and restored in accordance with safe and proven engineering practice, in accordance with the principles of construction for secondary roads for the arctic and subarctic environments, and in accordance with the approved ACCESS ROAD plan required pursuant to Section 1.I of the LEASE and STIPULATION 1.7.3.

3.3.2. ACCESS ROADS shall (1) be constructed to widths suitable for safe operation of equipment at the travel speeds proposed by the LESSEE; (2) have a maximum allowable grade of twelve (12) percent unless otherwise approved in writing by the COMMISSIONER; (3) shall be crowned, if non-paved, with windrows of surface material removed from the road edges.

3.4. CONSTRUCTION MODE Requirements

3.4.1. The selection of the CONSTRUCTION MODE shall be governed by the results of adequate geotechnical field exploration and field and laboratory testing programs. Comprehensive analyses of the data obtained shall be made to assure that PIPELINE integrity will be maintained and that CONSTRUCTION or OPERATION of the PIPELINE will not cause or exacerbate major terrain disturbances. Analyses shall consider stress and strain on the PIPELINE by internal and external loading and shall include, but not be limited to, total and differential heaving, permafrost (especially liquefaction and differential settlement after thawing), frost action, seismic loading, slope stability, active faults, swelling soils, subsidence, erosion, flooding, icings, and differential temperature stress. The FINAL DESIGN for the CONSTRUCTION MODE shall be submitted to the COMMISSIONER for written approval in accordance with STIPULATION 1.9.

3.5. Earthquakes and Fault Displacements

3.5.1. Earthquakes

3.5.1.1. The PIPELINE SYSTEM shall be designed by appropriate application of modern, state-of-the-art seismic design procedures to protect the PIPELINE SYSTEM from the effects (including seismic shaking, ground deformation, and earthquake-induced mass movements) of earthquakes distributed along its route.

3.5.1.2. The LESSEE shall provide a seismic monitoring system, which shall be approved in writing by the COMMISSIONER, and shall ensure there are adequate procedures for the safe shutdown of the PIPELINE SYSTEM under seismic

conditions that may affect PIPELINE SYSTEM integrity. Such procedures shall be developed in accordance with the approved geologic hazards plan required pursuant to STIPULATION 1.7.3. To be considered adequate, they shall include but not necessarily be limited to:

- A. a communication capability with all key operating control points on the PIPELINE SYSTEM, the GAS conditioning FACILITY, the terminal including the Liquefied Natural GAS (LNG) plant, the marine terminal and other parties with seismic monitoring capabilities, as appropriate;
- B. a control center for the PIPELINE SYSTEM;
- C. operating procedures establishing the actions to be taken in the event of seismic conditions that may affect PIPELINE SYSTEM integrity; and
- D. seismic sensors as necessary to supplement existing monitoring capabilities.

3.5.2. Fault Displacements

3.5.2.1. Prior to applying for any NOTICE-TO-PROCEED, the LESSEE shall satisfy the COMMISSIONER that all recognizable or reasonably inferred active faults or fault zones along the alignment have been identified and delineated and any risk of major PIPELINE SYSTEM damage resulting from fault movement and ground deformation has been adequately assessed and provided for in the design of the PIPELINE SYSTEM in accordance with the approved geologic hazards plan required pursuant to STIPULATION 1.7.3. Evaluation of said risk shall be based on geologic, geomorphic, geodetic, seismic, and other appropriate scientific evidence of past or present fault behavior and shall be compatible with the design earthquakes and with observed relationships between earthquake magnitude and extent and amount of deformation and fault slip within the fault zone.

3.5.2.2. Minimum DESIGN CRITERIA as required pursuant STIPULATION 1.7.2 for any portion of the PIPELINE SYSTEM traversing a fault zone that is interpreted by the COMMISSIONER as active shall be:

- A. that the PIPELINE SYSTEM resist failure resulting in line rupture from maximum anticipated horizontal and/or vertical displacement in the foundation material anywhere within the fault zone during the life of the PIPELINE SYSTEM; and
- B. that no storage tank or compressor station be located within the fault zone unless otherwise approved by the COMMISSIONER.

3.6. Slope Stability

3.6.1. Areas subject to mudflows, landslides, avalanches, rock falls, and other types of mass movements shall be avoided where practicable in locating the PIPELINE SYSTEM. Where such avoidance is not practicable, the PIPELINE SYSTEM design, based upon detailed field investigations and analysis, shall provide measures to prevent the occurrence of, or protect the PIPELINE SYSTEM against the effects of mass movements in accordance with the approved geologic hazards plan required pursuant to STIPULATION 1.7.3. The PIPELINE shall be designed to protect existing FACILITIES, including the TRANS-ALASKA PIPELINE

SYSTEM, from the effects of mass movement caused by the LESSEE's activities, or the activities of the LESSEE's employees, agents, contractors, and subcontractors, and the employees of each of them, and shall not adversely affect slope stability protection measures of existing structures.

3.7. Stream, River, Floodplain and WETLAND Crossings

3.7.1. General

3.7.1.1. The PIPELINE SYSTEM shall be designed so as to minimize the number of river, stream, floodplain and WETLAND crossings and to include, but not be limited to, consideration of blockage of surface drainage, blockage of groundwater flow resulting from a chilled buried PIPELINE, aufeis development, erosion and sedimentation, restriction of natural meanders or alteration of the physical or chemical nature of the waterbodies as well as the effect of any alteration in these factors caused by the LESSEE's activities, or the activities of the LESSEE's agents, employees, contractors, or subcontractors, and the employees of each of them, upon existing FACILITIES, including the TRANS-ALASKA PIPELINE SYSTEM.

3.7.1.2. The PIPELINE SYSTEM shall be designed to withstand or accommodate the effects (including runoff, stream and floodplain erosion, meander cutoffs, lateral migration, ice-jams, and icings) of those meteorologic, hydrologic (including surface and subsurface) and hydraulic conditions considered reasonably possible for the region. The following standards shall apply to PIPELINE design:

- A. the PIPELINE shall cross streams below ground unless another means of crossing is approved in writing by the COMMISSIONER;
- B. the PIPELINE design flood shall be based on the concept of the standard project flood;
- C. the depth of channel scour shall be established by appropriate hydraulic field investigations and theoretical calculations using those combinations of water velocity and depth that yield the maximum value and at the point of maximum scour, the cover over the pipe shall be at least twenty (20) percent of the computed scour, but not less than four (4) feet;
- D. for approved aerial crossings of streams, an analysis shall be made to ensure that support structures are adequately protected from the effects of scour, channel migration, undercutting, ice forces, degradation of permafrost, and other internal and external loads;
- E. to avoid channelization along the pipe, appropriate design and CONSTRUCTION procedures will be included in the approved plans required pursuant to Section 1.I of the LEASE and STIPULATION 1.7.3 and shall be used wherever there is potential for such channelization;
- F. all pipe ditch excavation shall stop an adequate distance from water crossings to leave a protective plug of unexcavated material at each bank until the stream bed excavation is complete and the pipe laying operation is begun. The pipe ditch shall be backfilled with stable material as soon as the pipe is laid.

3.7.1.3. Low water crossings (armored fords across streams where vehicles are moved on the streambed) shall be designed, constructed, maintained, and restored to standards approved in writing by the COMMISSIONER.

3.7.2. Culverts and Bridges

3.7.2.1. Permanent PIPELINE SYSTEM culverts and bridges shall be designed at a minimum to accommodate a fifty (50) year flood in accordance with criteria established by the American Association of State Highway Officials and the Federal Highway Administration and endorsed by the Alaska Department of Transportation and Public Facilities. On waterways where a United States Coast Guard bridge permit is required, permanent bridges shall be designed to accommodate a one hundred (100) year flood in accordance with U.S. Department of Transportation and Public Facilities Order 5650.2.

3.7.2.2. PIPELINE SYSTEM culverts shall be designed in accordance with the DESIGN CRITERIA required by STIPULATION 1.7.2.

3.7.3. Erosion

3.7.3.1. Erosion control shall be performed in accordance with the approved plan required pursuant to Section 1.1 of the LEASE and STIPULATION 1.7.3.

3.7.3.2. To prevent erosion, the COMMISSIONER may direct the LESSEE to stabilize the culvert inlet and outlet areas by appropriate methods, such as the use of stilling basins or riprap and/or armor.

3.7.3.3. Slopes of cuts through stream banks shall be designed and constructed to minimize erosion and prevent slides.

3.7.3.4. Erosion control procedures shall accommodate and be based on the runoff produced by the maximum rainfall rate and snowmelt rate combination reasonably characteristic of the region. The procedures shall also accommodate effects that result from thawing produced by flowing or ponded water on permafrost terrain and the effects of ice.

3.8. PRECONSTRUCTION, CONSTRUCTION, OPERATION and TERMINATION

3.8.1. All PRECONSTRUCTION, CONSTRUCTION, OPERATION, and TERMINATION activities in connection with the PIPELINE shall be conducted so as to avoid or minimize thermal and other environmental changes and to provide maximum protection to the environment (including fish and wildlife and their habitats), subsistence use, and public health and safety. All working platforms, pads, fills, and other surface modifications shall be planned and executed in such a way that any resulting degradation of permafrost will not jeopardize the surrounding environment, including foreign pipelines and other structures.

3.8.2. A monitoring program shall be developed by LESSEE as part of the surveillance and maintenance plan required pursuant to STIPULATION 1.7.3 which shall identify any PIPELINE movement, that may affect PIPELINE integrity, resulting from frost heave, settlement or seismic forces. This program, including baseline data, shall be finalized and operational prior to transmission of GAS through the PIPELINE.

3.8.3. The LESSEE shall provide plans for corrosion resistant design and methods for early detection of corrosion in accordance with 49 CFR Part 192. This shall include consideration of:

- A. pipeline material to be used and information on its particular suitability for the environment involved;
- B. details on the external pipe protection to be provided (coating, wrapping, etc.), including information on variations of the coating process to cope with variations in environmental factors along the PIPELINE SYSTEM route;
- C. plans for cathodic protection including details of impressed current sources and controls to ensure continuous maintenance of adequate protection over the entire surface of the pipe;
- D. details of plans for monitoring cathodic protection current, including spacing of current monitors;
- E. provision for periodic intensive surveys of trouble spots, regular preventive maintenance surveys, and special provisions for abnormal potential patterns, especially those resulting from other pipelines or cables;
- F. information on any precautions that may be required to prevent internal corrosion of the PIPELINE SYSTEM.

3.9. Containment of Spills of OIL or Other HAZARDOUS SUBSTANCES

3.9.1. The LESSEE shall construct containment dikes or other suitable structures around all temporary and permanent PIPELINE SYSTEM storage FACILITIES for OIL or other HAZARDOUS SUBSTANCES or WASTES. The volume of the containment structures shall be at least:

- A. one-hundred and ten (110) percent of the total storage volume of the storage tanks in the relevant area; plus
- B. an additional volume sufficient to contain the maximum trapped precipitation and runoff which might be impounded at the time of failure of the storage FACILITY. Such containment structures shall be constructed to provide seepage-free storage until disposal of their contents can be safely made without contamination of the surrounding area.

3.9.2. All OIL, HAZARDOUS SUBSTANCES, or HAZARDOUS WASTES utilized or produced during the PRECONSTRUCTION, CONSTRUCTION, OPERATION, or TERMINATION of the PIPELINE SYSTEM, shall be stored in above ground containers surrounded by such containment structures described in STIPULATION 3.9.1 until utilized or disposed of in compliance with applicable Federal and State laws and regulations. Unless otherwise approved in writing by the COMMISSIONER, all inlet and outlet piping from storage FACILITIES for OIL, HAZARDOUS SUBSTANCES, or HAZARDOUS WASTES shall be above ground (or buried in utilidors approved by the COMMISSIONER) and all pipe joints shall be welded.

EXHIBIT B
CONDITIONAL RIGHT-OF-WAY LEASE
FOR THE
TRANS-ALASKA GAS SYSTEM

State of Alaska
Department of Natural Resources
Division of Land and Water Management
State Pipeline Office

TAGS Lease
ADL 413342
December 10, 1988

Exhibit B has been intentionally left blank as it will contain the signed "Conditional Right-of-Way Lease for the Trans-Alaska Gas System".

APPENDIX G-8

Yukon Pacific Corporation
DOE Opinion & Order No. 350
“Order Granting Authorization to
Export Liquefied Natural Gas
From Alaska
1 FE ¶70,259 (11-16-1989)

¶ 70,259

Yukon Pacific Corporation (ERA Docket No. 87-68-LNG), November 16, 1989.

DOE/FE Opinion and Order No. 350

Order Granting Authorization to Export Liquefied Natural Gas from Alaska

<i>Table of Contents</i>	C. Order Requesting Additional Comments
Glossary of Abbreviations	D. Alaska Public Conference
Map of Alaska Energy Projects	E. Other Filings
I. Summary	IV. Comments Received
II. Background	A. Alaskan Northwest and Foothills
III. Procedural History	B. PGT and PG&E
A. Application and Project Description	C. State of Alaska
B. Notice and Interventions	

⁴ See, e.g., *Grand Valley Gas Company*, 1 FE ¶ 70,239 (August 25, 1989); *Potomac Energy Corporation*, 1 FE ¶ 70,237 (August 24, 1989); *Cascade Natural Gas Corporation*, 1 FE

¶ 70,225 (June 12, 1989); and *Wisconsin Public Service Corporation*, 1 FE ¶ 70,230 (June 19, 1989).

Federal Energy Guidelines

¶ 70,259

- D. Government of Canada
- E. Exxon
- F. TAPS Carriers and Alyeska
- G. Statoil
- H. Yukon Pacific's Position
- V. Decision
 - A. Domestic Need
 - 1. Domestic Supplies
 - 2. Alternative Supplies
 - 3. Effects on Quantity, Quality, and Price
 - a. Quantity
 - b. Quality
 - c. Price
 - B. Other Public Interest Considerations
 - 1. American Consumers
 - 2. Energy Production
 - 3. State of Alaska
 - 4. International Effects
 - 5. The Environment
 - C. ANGTA
 - D. Other Matters
- VI. Conclusion
 - Order

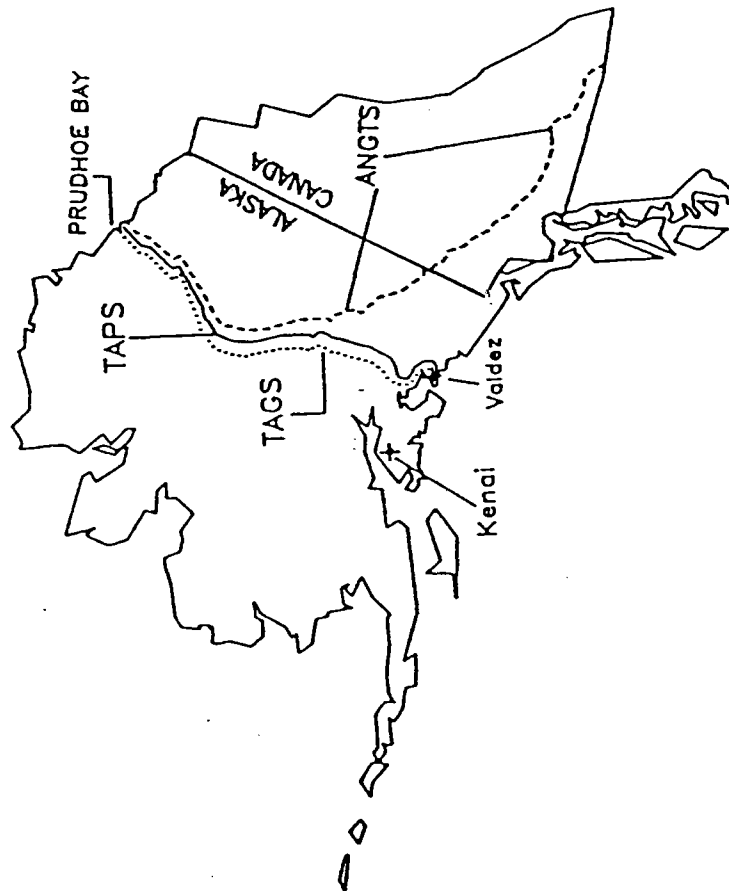
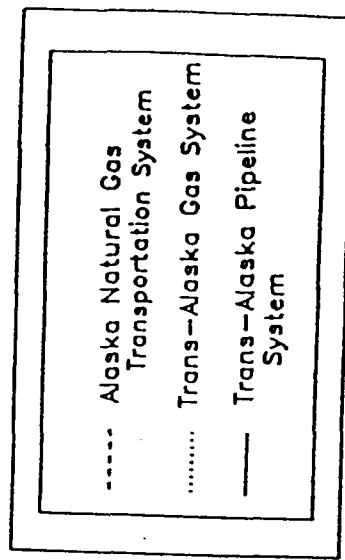
Glossary of Abbreviations

ADNR—Alaska Department of Natural Resources
 AGA—American Gas Association
 AGCF—Alaska Gas Conditioning Facility
 Agreement on Principles—"Agreement Between the United States of America and Canada on Principles Applicable to a Northern Natural Gas Pipeline"
 Alaskan Northwest—Alaskan Northwest Natural Gas Transportation Company
 Alcan—Alcan Pipeline Company
 Alyeska—Alyeska Pipeline Service Company
 ANGTA—Alaska Natural Gas Transportation Act
 ANGTS—Alaska Natural Gas Transportation System
 ANGTS sponsors—Alaska Northwest Natural Gas Transportation Company and Foothills Pipe Lines (Yukon) Ltd.
 AOGCC—Alaska Oil and Gas Conservation Commission
 Argonne—Argonne National Laboratory
 bbls—Barrels

Bcf—Billion cubic feet
 BLM—Bureau of Land Management
 Btu—British thermal unit
 CERI—Canadian Energy Research Institute
 Decision—"Decision and Report to Congress on the Alaska Natural Gas Transportation System"
 D&M—Dames & Moore and Decision Focus, Inc.
 DOE—Department of Energy
 DOE Act—Department of Energy Organization Act
 DRI—Data Research Institute
 EIA—Energy Information Administration
 EIS—Environmental Impact Statement
 ERA—Economic Regulatory Administration
 Exxon—Exxon Corporation
 Exxon U.S.A.—Exxon Company, U.S.A.
 FEIS—Final Environmental Impact Statement
 FERC—Federal Energy Regulatory Commission
 Finding—"Presidential Finding Concerning Alaska Natural Gas"
 Foothills—Foothills Pipe Lines (Yukon) Ltd.
 FPC—Federal Power Commission
 GCF—Gas Conditioning Facility
 GRI—Gas Research Institute
 Jensen—Jensen Associates, Inc.
 LNG—Liquefied Natural Gas
 Mcf—Thousand cubic feet
 MMBtu—Million British thermal units
 NEB—Canadian National Energy Board
 NEPA—National Environmental Policy Act of 1979
 NGA—Natural Gas Act
 NGPA—Natural Gas Policy Act of 1978
 NPC—Northwest Pipeline Corporation
 OFI—Office of Federal Inspector
 OPEC—Organization of Petroleum Exporting Countries
 PG&E—Pacific Gas and Electric Company
 PGT—Pacific Gas Transmission Company
 quad—quadrillion British thermal units
 R/P ratio—Ratio of proved natural gas reserves to production
 Reorganization Plan—Reorganization Plan No. 1 of 1979
 Statoil—Statoil North America, Inc.

State Department—United States Department of State	Tcf—Trillion cubic feet
TAGS—Trans-Alaska Gas System	USACE—United States Army Corps of Engineers
TAPS—Trans-Alaska Pipeline System	USGS—United States Geological Survey
TAPS Carriers—the seven companies that own the Trans-Alaska Pipeline System	

ALASKA ENERGY PROJECTS



I. Summary

The Department of Energy (DOE) is granting the application of Yukon Pacific Corporation (Yukon Pacific) for authorization under section 3 of the Natural Gas Act (NGA) to export natural gas from the North Slope of Alaska to the Pacific Rim countries of Japan, South Korea, and Taiwan by means of the proposed Trans-Alaska Gas System (TAGS). The DOE has concluded that this export will not be inconsistent with the public interest. In particular, the DOE finds that this gas supply is not needed to ensure American consumers adequate supplies at reasonable prices. In addition, the DOE expects the TAGS export project to provide important benefits in the areas of energy security, energy production, international relations, trade deficit reductions, and the Alaskan economy.

The DOE has conditioned the export authorization to minimize any detrimental effects on American consumers, the Alaska Natural Gas Transportation System (ANGTS), and the environment. Specifically, the authorization provides that no costs of the export project can be recovered from American consumers, that no action can be taken in connection with the export project that would impair the construction and operation of the ANGTS project, and that the export project must be undertaken in accordance with all applicable environmental procedures and safeguards.

By granting this application, the DOE is not dictating that a specific project should be undertaken for developing North Slope natural gas.¹ The approval neither commits any natural gas supplies to Yukon Pacific nor creates any regulatory impediments to other North Slope natural gas projects, including ANGTS. Rather, the approval is intended to spur competition to develop North Slope natural gas efficiently, with the marketplace determining the course of development. The public interest lies in bringing this immense energy resource to market in an efficient and timely manner.

¹ For purposes of this order, North Slope natural gas means gas derived from the area of the State of Alaska north of the Brooks Range, including the continental shelf of the U.S. under the Beaufort Sea.

II. Background

In the winter of 1967-68 a wildcat rig drilling Prudhoe Bay State Well No. 1 on Alaska's North Slope struck a formation that, when later delineated, proved to be the biggest known crude oil deposit ever found in the U.S. and one of the largest accumulations of natural gas. The Prudhoe Bay Field alone contains an estimated 26 Tcf of recoverable gas reserves,² more than 13 percent of the proven natural gas reserves in the U.S. While the ultimate gas potential has yet to be determined, total accumulations in reservoirs on the North Slope have been estimated at more than 100 Tcf.

In 1970, the Alyeska Pipeline Service Company (Alyeska) was formed to construct and operate an oil pipeline from Prudhoe Bay to Valdez, a deepwater port in southern Alaska. Pipeline construction of the Trans-Alaska Pipeline System (TAPS) began in the winter of 1974-75 and by 1977 crude oil was being transported through the pipeline for markets in the lower-48 states.

By the mid-1970's, various plans for a transportation system that could bring North Slope gas to the lower-48 states were considered. Between 1974 and 1976, three different projects came before the Federal Power Commission (FPC) for certification. Because Congress was concerned about natural gas curtailments on the interstate transmission system, and feared a permanent supply shortage, it enacted the Alaska Natural Gas Transportation Act (ANGTA) in 1976 to ensure that regulatory action or inaction would not stand in the way of the efforts of private parties to bring North Slope gas to market.³ The purpose of ANGTA was to streamline the lengthy certification process by authorizing the President to designate a transportation system from among the competing projects, subject to Congressional approval. In addition, in response to the perceived regulatory delays and inefficiencies in connection with the construction of TAPS, ANGTA included provisions designed to expedite the construction and initial operation of the selected gas transportation system

² Alaska Department of Natural Resources, *Historical and Projected Oil and Gas Consumption*, January 1989.

³ 15 U.S.C. 719 et seq.

and to prevent agency actions that would hinder expeditious completion of that system by the project's sponsors.⁴

Although ANGTA removed and minimized regulatory barriers to the permitting and construction of the selected transportation system, responsibility for realizing the project was left to private parties. Likewise, responsibility for efficiently developing North Slope gas reserves was left to the owners of the gas. ANGTA did not mandate the use of this gas in domestic markets. In fact, section 12 of ANGTA expressly permits the export of North Slope gas if the President finds that such exports will not effect American consumers adversely.⁵

On September 22, 1977, following the signing of an agreement on principles with Canada,⁶ President Jimmy Carter transmitted to Congress his decision concerning ANGTS.⁷ The President's *Decision and the Agreement on Principles*

were approved by Congress on November 8, 1977.⁸ Because of fluctuations in energy market conditions and the appearance of widespread gas surpluses, the sponsors of the ANGTS project decided in April 1982 to postpone construction of the Alaskan segment of the system. In the absence of a gas transportation system, almost all of the natural gas produced on the North Slope in conjunction with the oil has been reinjected into the reservoirs.

The decision concerning the Alaskan segment can be linked to a fundamental change in circumstances and behavior of natural gas markets in North America during the last decade when the gas shortages of the seventies have been replaced by adequate supplies for the foreseeable future. To a large extent, this change has resulted from decisions to abandon government-mandated price controls and other artificial regulatory restraints on the operation of the market in favor of competition.⁹

⁴ In particular, section 9 of ANGTA prohibits actions that "would compel a change in the basic nature and general route of the approved transportation system or would otherwise prevent or impair in any significant respect the expeditious construction and initial operation of such transportation system."

⁵ Section 12 of ANGTA provides:

Any exports of Alaska natural gas shall be subject to the requirements of the Natural Gas Act and section 103 of the Energy Policy and Conservation Act, except that in addition to the requirements of such Acts, before any natural gas in excess of 1,000 Mcf per day may be exported to any nation other than Canada or Mexico, the President must make and publish an express finding that such exports will not diminish the total quantity or quality nor increase the total price of energy available to the United States.

⁶ "Agreement Between the United States of America and Canada on Principles Applicable to a Northern Natural Gas Pipeline," September 20, 1977, U.S.T. 3581, T.I.A.S. 9030, which established the terms and conditions by which the two countries would cooperate to facilitate the construction, by private parties, of a joint gas pipeline system for the transportation of gas from Alaska and Northern Canada.

⁷ *Decision and Report to Congress on the Alaska Natural Gas Transportation System*, issued by the President on September 22, 1977, pursuant to section 7 of ANGTA. This decision selected the Alcan Pipeline Company (Alcan) to build and operate the U.S. portion of the ANGTS. Subsequent to the President's *Decision*, the FPC issued certificates of public convenience and necessity to Alcan. Thereafter, Alcan's rights were transferred to Alaskan

Northwest Natural Gas Transportation Company. In the *Agreement on Principles* the two governments designated Foothills Pipe Lines (Yukon) Ltd. as the company responsible for the construction and operation of the Canadian segment of the system. As described in the President's *Decision*, the ANGTS would be a 5,000-mile pipeline originating on the North Slope and traversing Canada to the lower-48 states. The Canadian segment would be 2,000 miles long. To accommodate the growing surplus of exportable Canadian gas from Alberta, the project's construction was scheduled in two phases to enable export of Canadian gas pending the full completion of the system. The first phase of construction commenced in December 1980 with the building of a 1500-mile section that originates at a point just north of Calgary, Alberta, and splits into an Eastern and Western leg as it enters the U.S. The Western Leg terminates at Stanfield, Oregon, and the Eastern Leg terminates at Ventura, Iowa. These "prebuild" segments of the system were completed in 1982 and Canadian gas now flows through them.

⁸ Pub. L. No. 95-158.

⁹ The shift from regulation to market competition has not been confined to natural gas but has occurred throughout the energy market. For example, in January 1981, President Reagan, through the issuance of Executive Order 12287, removed allocation and price controls from crude oil and refined petroleum products. This action resulted in increased competition between fuel oil and natural gas, which, in turn, caused extensive fuel switching in the industrial market.

In 1978, Congress, through the passage of the Natural Gas Policy Act of 1978 (NGPA),¹⁰ established as national energy policy the movement toward a competitive gas market in the U.S. The NGPA initiated a partial and phased relaxation of wellhead price controls, thereby encouraging producers to find and develop more gas. In July 1989, the NGPA was amended to remove all remaining wellhead price controls by 1993.¹¹ In addition to the removal of wellhead controls, Congress has acted to remove demand restraints that attempted to dictate how natural gas should be consumed.¹²

In conjunction with these statutory actions, the Federal Energy Regulatory Commission (FERC), exercising functions formerly vested in the FPC, has taken numerous regulatory steps to increase the competitiveness of the natural gas market. The centerpiece of the FERC's regulatory efforts has been the establishment of an open-access transportation system that permits producers and consumers to deal directly and establish market-responsive prices for gas supplies.¹³ The FERC also has acted in other areas to remove regulatory barriers to competition.¹⁴

The shift to a competitive marketplace was not confined to the domestic market. Both the U.S. and Canadian Governments developed a market-based approach to their respective import and export policies. The continuing surplus of gas supplies and, with it, the increasing pressure for greater competition in gas markets in the U.S., led the Secretary of Energy to issue new policy guidelines in 1984 relating to gas imports.¹⁵ The DOE's policy guidelines established new criteria for review of import applications and defined the "public interest" as enhanced competition in markets served by imports, reduced federal intervention in the marketplace, and encouragement of negotiated arrangements between buyers and sellers, thereby allowing greater flexibility in individual contracts. The objective of this policy was to complement domestic initiatives toward market oriented gas regulation by allowing market forces, in lieu of regulatory constraints, to define supply and demand. In effect, the guidelines represented a determination that it is in the public interest to let market forces, with a minimum of regulatory constraints, define efficient energy production and consumption.

¹⁰ 15 U.S.C. 3301 et seq. Among other things, the NGPA provided for the phased decontrol of over 50 percent of natural gas at the wellhead. The Supreme Court has characterized the NGPA as a Congressional determination "to move toward a less regulated national natural gas market" which "give[s] market forces a more significant role in determining the supply, demand, and the price of natural gas" and has found that "the change in regulatory perspective embodied in the NGPA rested in significant part on the belief that direct federal price control exacerbated supply and demand problems by preventing the market from making long-term adjustments." *Transcontinental Gas Pipe Line Corporation v. State Oil and Gas Board of Mississippi*, 474 U.S. 409, 422-4. (1986); see also *FERC v. Martin Exploration Management Co.* (NGPA denotes legislative preference for deregulatory treatment rather than regulatory support of practices not responsive to market conditions), 108 S.Ct. 1765 (1988); *Pennzoil Company v. FERC* ("The NGPA is a fundamental change in regulatory outlook."), 645 F.2d 360, 378 (1981).

¹¹ Natural Gas Wellhead Decontrol Act of 1989, Pub. L. No. 101-60.

¹² Congress repealed oil and gas restrictions imposed by the Fuel Use Act that prohibited

new electric powerplants and new large industrial boiler facilities from using natural gas or petroleum as a primary source of energy. It also repealed the incremental pricing provisions of Title II of the NGPA. See Pub. L. No. 100-42.

¹³ *Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol* (Order 436), 50 FR 42408 (October 18, 1985), vacated, *Associated Gas Distributors v. FERC*, 824 F.2d 981 (D.C. Cir. 1987). The FERC issued interim Order 500 on August 7, 1987, readopting most of the provisions of Order 436, 52 FR 30334 (August 14, 1987). On October 16, 1989, the D.C. Circuit remanded the record for the FERC to issue a final rule within 60 days, 1989 WL 120705.

¹⁴ See e.g., *Final Rule, Elimination of Variable Costs from Certain Natural Gas Pipeline Minimum Commodity Bill Provisions*, 27 FERC ¶ 61,318 (1984); *Ceiling Prices; Old Gas Pricing Structure*, 51 FR 22168 (June 18, 1986).

¹⁵ *New Policy Guidelines Relating to the Regulation of Imported Natural Gas*, 49 FR 6684 (February 22, 1984).

Paralleling the U.S. move toward greater competition in gas markets, Canada progressively liberalized its procedures for review of natural gas export applications. In 1984, Canada shifted away from regulated, uniform, volumetric prices for exports that had been instituted in 1975, to a policy that offered exporters the option of negotiating the sales price in export contracts. As of 1986, the Canadian National Energy Board (NEB) no longer required that it give prior approval of export prices. In 1987, the NEB adopted new procedures that allowed market forces to determine export levels as long as Canadian needs are served adequately and fairly.

Finally, the U.S./Canada Free Trade Agreement came into force January 1, 1989. It was a reflection of the changes that had taken place in both countries' energy policies. It formalized the principle that free and open trade is in the best interest of the citizens of the U.S. and Canada.

This evolution in natural gas trade has not been confined to Canadian imports. In 1983, President Ronald Reagan and Japanese Prime Minister Yasuhiro Nakasone indicated their interest in private commercial efforts to bring North Slope natural gas to Pacific Rim countries, including Japan. They recognized the benefits in the free trade of energy resources, as demonstrated by the gas export project operated jointly by Phillips 66 Natural Gas Company and Marathon Oil Company which, for about 20 years, has liquefied and shipped gas from the Cook Inlet area of southern Alaska to markets in Japan.¹⁶

In 1982, Yukon Pacific began exploring the concept of a trans-Alaska pipeline, combined with a liquefied natural gas (LNG) terminal in southern Alaska, for marketing North Slope gas in Japan and other Pacific Rim countries. In 1984, after studying the feasibility of the project, Yukon Pacific applied to the Bureau of Land Management (BLM) and the U.S. Army Corps of Engineers (USACE)

for the necessary permits to build the TAGS pipeline. A right-of-way grant for the TAGS project was issued by BLM on October 17, 1988.

On January 12, 1988, President Reagan removed the section 12 impediment to exports of North Slope natural gas by issuing a finding that such exports would not affect adversely the quantity, quality, or price of the energy supplies available to U.S. consumers.¹⁷ In particular, the President found that "there exist adequate, secure, reasonably priced supplies of natural gas to meet the domestic demand of American consumers for the foreseeable future." The President acted to let "the marketplace undertake a realistic consideration of various options concerning Alaska natural gas" by allowing "any private party to develop this resource" and setting "up competition for this purpose." The President's *Finding* stated that "the operation of market forces is the best guarantee that Alaska natural gas will be developed efficiently and that there will be an incentive to find additional reserves."

In conclusion, North Slope natural gas is a major energy resource whose efficient development has been a goal of U.S. energy policy since its discovery in 1968. In response to changing conditions in the domestic and international energy markets, there have been various proposals for developing this resource. Legislative and regulatory policy changes in the past decade and market forces have combined to increase competitiveness of natural gas in the U.S. market. As of yet, however, North Slope gas has been left undeveloped. It is in this historical context that the DOE considered Yukon Pacific's application to export North Slope gas.

III. Procedural History

A. Application and Project Description

On December 3, 1987, Yukon Pacific filed an application with the Economic Regulatory Administration (ERA),¹⁸ for authority under the Natural Gas Act (NGA) to export up to 14 million metric

¹⁶ Currently, approximately 52 trillion Btu's (52 Bcf) of LNG annually is authorized to be exported by Phillips 66 Natural Gas Company and Marathon Oil Company. See *Phillips 66 Natural Gas Company; Marathon Oil Company*, 1 ERA ¶ 70,130 (July 28, 1988).

¹⁷ See *Presidential Finding Concerning Alaska Natural Gas*, 53 FR 999 (January 15, 1988).

¹⁸ On January 6, 1989, certain functions, including the regulation of natural gas imports and exports, were transferred from the ERA to the Office of Fossil Energy.

tons of LNG annually (660 Bcf regasified) to the countries of Japan, South Korea, and Taiwan for 25 years, beginning on the date of first delivery. The natural gas would be transported from the North Slope by means of the proposed TAGS pipeline to a tidewater site at Port Valdez, Anderson Bay, on Alaska's southern coast. At Valdez, the gas would be converted to LNG for ocean transport to the Pacific Rim markets.

According to Yukon Pacific, construction of the proposed TAGS facilities will require five years and will commence when all required governmental approvals are obtained and LNG sales contracts are signed with the Pacific Rim customers. The first exports of LNG are expected to occur in 1996 when construction of TAGS is scheduled to be completed and Yukon Pacific would be able to initiate operations. The principal components of the TAGS project are: (1) a 796.5-mile, 36-inch outside diameter, buried and chilled natural gas pipeline from Prudhoe Bay to Port Valdez, with a design capacity of 2.3 Bcf of natural gas per day; (2) ten compressor stations along the pipeline; (3) a liquefaction plant at Port Valdez that would include four LNG processing units to remove impurities from incoming gas, and to reduce the temperature of the gas to -259 degrees Fahrenheit, condensing it to the liquid state for storage and shipping; (4) four LNG storage tanks, each with an individual capacity of 800,000 barrels (bbls); (5) a marine terminal to berth and load two LNG tankers; and (6) 15 LNG ocean transport vessels having individual cargo capacities of a nominal 125,000 cubic meters. In addition to the above facilities proposed by Yukon Pacific for the TAGS project, a gas conditioning plant would be required in the Prudhoe Bay area to deliver to the TAGS pipeline natural gas of a quality suitable for subsequent conversion to LNG at Anderson Bay.

Yukon Pacific states that it has entered into discussions with the owners (certain producers and the State of

Alaska) for their North Slope gas. These discussions are focusing primarily on purchasing gas from the principal reservoir in the Prudhoe Bay Field, the Sadlerochit formation. According to Yukon Pacific, the contract terms with each producer would be established through arms-length negotiations and would be flexible over the term of the agreements to reflect market conditions. The purchase price to be paid to producers would be determined by a formula using a base price per MMBtu adjusted for variations in the LNG price at the point of destination. With respect to the sale of this gas, Yukon Pacific expects to negotiate in arms-length transactions 25-year contracts that would be responsive to international gas market conditions. Yukon Pacific anticipates that the delivered price of LNG sold under the proposed export arrangement would start with a base price per MMBtu and would vary each month according to a formula based upon changes in the average selling price of selected major crude oils.

B. Notice and Interventions

The DOE issued a notice of the application on February 1, 1988, inviting protests, motions to intervene, notices of intervention, and comments to be filed by March 11, 1988.¹⁹ Seven timely motions to intervene were filed: by Northwest Pipeline Corporation (NPC), the State of Alaska, Pacific Gas Transmission Company (PGT) and Pacific Gas and Electric Company (PG&E) (jointly), Alaskan Northwest Natural Gas Transportation Company (Alaskan Northwest), Foothills Pipe Lines (Yukon) Ltd. (Foothills), the TAPS Carriers and Alyeska (jointly),²⁰ and the Exxon Corporation (Exxon). Statoil North America, Inc. (Statoil) filed a late motion to intervene on March 25, 1988. Air Products and Chemicals, Inc., filed comments supporting the TAGS project but did not seek to intervene. The U.S. Department of State (State Department) submitted a letter²¹ it received from the Canadian Embassy concerning the application. Alaskan Northwest and

¹⁹ 53 FR 3617, February 8, 1988.

²⁰ The TAPS Carriers are seven companies that own the Trans-Alaska Pipeline System. They are: Amerada Hess Pipeline Corporation, ARCO Pipe Line Company, Exxon Pipeline Company, Mobil Alaska Pipe Line Company, Phillips Alaska Pipeline Corporation, Sohio

Alaska Pipeline Company, and UNOCAL Pipeline Company.

²¹ Letter dated March 9, 1988, from Mr. Leonard H. Legault, Charge d'affaires, Canadian Embassy to Mr. John P. Ferriter, Deputy Assistant Secretary for International Energy and Resources Policy, Department of State.

Foothills opposed the application, requested its dismissal, and in the event that the application was not dismissed, Foothills requested a trial-type hearing and discovery procedures. (Hereafter in this order, where their views coincide, Alaskan Northwest and Foothills are referred to collectively as the ANGTS sponsors.) NPC did not express an opinion on the merits of the export proposal.

C. Order Requesting Additional Comments

On July 25, 1988, the DOE issued a procedural order requesting further information from Yukon Pacific, providing opportunity for further comment from all parties, and granting intervention to all eight movants who responded to the DOE's February 8, 1988, *Federal Register* notice of the application. The DOE denied several motions filed by the parties requesting: (1) dismissal of the application; (2) denial of interventions; (3) a trial-type hearing; (4) rehearing; and (5) an opportunity to conduct discovery. The requests for additional procedures were denied without prejudice to the filing of similar requests at a later stage in the proceeding.²² The procedural order requested submission of comments by August 24, 1988, reply comments by September 23, 1988, and requests for additional procedures by October 10, 1988. The DOE received comments from Alaskan Northwest, Foothills, Yukon Pacific, the State of Alaska, PGT and PG&E (jointly), and Statoil.

D. Alaska Public Conference

Following submission of comments in response to the DOE's July 25, 1988, procedural order, Foothills filed a request for a trial-type hearing, or alternatively, a public conference. In addition, Alaskan Northwest renewed its earlier request expressed in its motion to intervene for dismissal of Yukon Pacific's application.

On December 5, 1988, the DOE issued a procedural order that denied the requests for dismissal of the application and for a trial-type hearing but granted the request for a public conference.²³ The

order set January 25, 1989, as the date for the public conference to be held in Anchorage, Alaska. Alaskan Northwest, Foothills, the TAPS Carriers, Exxon, the State of Alaska, and Yukon Pacific filed written statements or made oral presentations at the public conference.

E. Other Filings

The State Department submitted on January 11, 1989, a letter to be added to the record from the Charge d' affaires of the Canadian Embassy in Washington D.C., expressing the Canadian Government's renewed concern about the impact of the proposed export project on the ANGTS project.²⁴ On February 7, 1989, the State Department submitted for the record its reply to the Canadian Charge's letter in which it pointed out that the U.S. had, as originally agreed, undertaken all actions necessary to facilitate construction of the ANGTS and eliminate regulatory obstacles to private financing.²⁵ Since both the State Department and Canadian Embassy letters merely restate their views that are already part of the record in this proceeding and since no one opposed the inclusion of their correspondence in the record, the DOE hereby admits these letters into the record.

Foothills filed on March 17, 1989, a motion to enter into the record a statement presented to the Alaska State Legislature by an official of Exxon Company, U.S.A. (Exxon U.S.A.), that expressed the view that it is not economically feasible at today's prices to develop North Slope gas for either the domestic or the Pacific Rim markets. Exxon U.S.A. stated that "[a]n assured market and a substantial real growth in energy prices will be required before a project to commercialize North Slope gas reserves can be economic" and that such conditions most likely will not exist until after the year 2000 and then will be much more likely for the domestic market than for the export market.²⁶ On March 21, 1989, Exxon U.S.A. also filed a copy of this statement to be added to the record. Yukon Pacific requested that the DOE

²² See the DOE's July 25, 1988, procedural order, at 11-15.

²³ DOE's December 5, 1988, procedural order, at 1-2.

²⁴ Letter dated January 9, 1989 from Mr. L.H. Legault to Mr. J.P. Ferriter.

²⁵ Letter dated January 30, 1989, from Mr. J.P. Ferriter to Mr. L.H. Legault.

²⁶ See statement of Mr. Judd Miller, Vice President of Exxon Company U.S.A., presented to the Senate Special Committee on Oil and

reject the statement on the grounds that the issues enumerated are irrelevant to this proceeding and the statement was filed late. The DOE concludes that admission of the statement would not adversely impact the proceeding or harm any party since it does not contain any relevant material that was not contained in prior submissions. Accordingly, the statement is hereby admitted into the record of this proceeding.

Finally, on June 28, 1989, a letter enclosing a "Third Amendment to Application" was submitted by Yukon Pacific. Although termed an amendment, Yukon Pacific's filing consisted entirely of newspaper and trade press articles concerning prospective LNG trade between Indonesia and certain Pacific Rim countries. On July 27, 1989, the DOE returned Yukon Pacific's filing after determining that it did not qualify as an amendment under the DOE's procedural rules because the information did not constitute a substantial change in the application and the material was not relevant and material to the resolution of the issues in this proceeding.

IV. Comments Received

A. Alaskan Northwest and Foothills

The ANGTS sponsors opposed the application in their interventions, in their responses to the July 25 procedural order, and at the public conference held in Anchorage. Their positions are fundamentally the same and are based primarily on their view that the proposed export could have an adverse impact on the ANGTS project. They advance several arguments. First, they argue that the application does not comply with the DOE's administrative regulations because it does not contain enough meaningful information for it to be properly evaluated. Specifically, they argue that the application does not include gas purchase or resale contracts, information on the gas conditioning facility expected to be used for the

(Footnote Continued)

Gas of the Alaska State Legislature on March 10, 1989.

²⁷ Atigun Pass is the highest point to be crossed by the TAGS pipeline in the Brooks Range. It is a narrow pinch point that currently accommodates the TAGS pipeline and a state highway, and is part of the ANGTS pipeline route.

TAGS project, a study regarding the feasibility of constructing both the proposed TAGS and ANGTS pipelines through Atigun Pass,²⁷ a complete environmental impact analysis of the project, a detailed description of the project's participants, and verifiable data demonstrating that the gas is not needed in the U.S.

Second, based on several energy supply studies and reports submitted with their comments, the ANGTS sponsors argue that North Slope gas would be needed and economically competitive in the lower-48 states by the mid-1990's. They contend that the excess demand in the lower-48 states cannot be met by other energy resources as or more efficiently than by the proposed export volumes. The ANGTS sponsors assert that substitute fuels for North Slope gas, such as coal and oil, would be environmentally inferior to natural gas, which burns cleaner. They maintain that increasing dependence on coal and oil would contribute to ozone layer depletion in the atmosphere, "acid rain", and the "greenhouse" problem of global warming,²⁸ and alternative gas supplies, such as development of Canadian frontier gas, would be more costly. In addition, they assert that the commitment of North Slope gas reserves to foreign interests would jeopardize national energy security by depriving the U.S. of a source of available reserves to offset the declining energy base in the lower-48 states, and by increasing U.S. dependence on oil imports.

Third, they contend that the TAGS project would impair completion of the ANGTS because there are not enough proven reserves of gas on the North Slope to support both the TAGS and the ANGTS projects. The ANGTS sponsors assert that they need 26-30 Tcf of reserves to justify construction. They argue that such an impairment would violate section 9 of ANGTA and also harm relations between the U.S. and Canada since it would constitute a breach of the

²⁸ Natural gas produces less carbon dioxide during combustion than does oil or coal, and carbon dioxide is one of the "greenhouse" gases that some scientists believe is a major contributor to possible global climate change. High emissions of sulphur dioxide and nitrogen oxide from burning coal are precursors to "acid rain."

1977 U.S./Canada Agreement on Principles.

Fourth, they contend that the proposed TAGS project would be economically and environmentally detrimental due to construction of the TAGS and the ANGTS in close proximity to each other and due to the duplication of facilities. (The northern portion of the TAGS pipeline would parallel the proposed route of ANGTS). They maintain that the TAGS Final Environmental Impact Statement (FEIS) issued by BLM in June 1988, is incomplete.²⁹ In particular, they assert that it does not address the environmental impact of or identify the gas conditioning facility that Yukon Pacific plans to use as part of the TAGS project.

Finally, the ANGTS sponsors contend that, if an export authorization is issued to Yukon Pacific, then the following conditions must be attached thereto: (1) that Yukon Pacific files in the record gas purchase, sales, and transportation contracts specifying the gas reserves to be purchased, transported, and sold; (2) that proven reserves needed to supply ANGTS will not be depleted by TAGS; (3) that ANGTS has first call on North Slope gas for delivery to the lower-48 states, if needed to meet contractual obligations and to preserve the project's economic viability; (4) that construction of ANGTS shall have priority over TAGS in order to avoid incurring additional costs that would have to be borne by U.S. customers; (5) that Yukon Pacific submit definitive data on the gas conditioning facility to be constructed and used by TAGS; and that Yukon Pacific also submit definitive data on Atigun Pass demonstrating the feasibility of constructing TAGS at that location; (6) that Yukon Pacific identify any planned simultaneous construction of TAGS and ANGTS, proposed cost sharing and joint use arrangements, and provide a definitive analysis of the net economic benefits of the proposed export; and (7) that any final authorization issued be subject to suspension, modification, or revocation upon a showing that continuation of the proposed export is no longer in the public interest.

B. PGT and PG&E (jointly)

PGT and PG&E, which initially did not comment on the application, subsequently submitted comments recommending that the proposed export authorization be denied, citing studies that indicate that gas supplies in the lower-48 states will not be able to satisfy domestic demand during the term of Yukon Pacific's proposed export. They contend that the proposed export will leave insufficient proven reserves to economically justify completion of ANGTS which depends on the availability of adequate Alaska reserves. In addition, they assert that conserving North Slope gas for domestic use enhances the energy security of the U.S., reduces U.S. reliance on imported oil, and provides an environmentally preferable energy source over oil and coal.

C. State of Alaska

The State of Alaska intervened because of its proprietary and governmental interests in the proposed TAGS project. The State supports Yukon Pacific's export proposal because the project would increase employment in the state, develop and broaden the market for North Slope gas, yield revenues to the state from gas royalties and production taxes, and diversify the state's economy from industries servicing the TAGS project. However, it has no preference for TAGS over ANGTS and asserts that the market will decide which (or how many) systems should be built. The State opposes the imposition of conditions on any export authorization issued to Yukon Pacific that would favor one gas development project over another.

D. Government of Canada

The Canadian Government expressed concern through the State Department that the TAGS project could impair the financial viability of the ANGTS in that there may not be adequate quantities of North Slope gas to support both the TAGS and ANGTS projects. Canada urged the U.S. to ensure the availability of adequate North Slope gas in order to maintain the commercial viability of the ANGTS project.

E. Exxon

Exxon, an owner and producer of North Slope gas, endorsed the President's *Finding* concerning North Slope gas. Exxon

²⁹ The BLM and USACE published a draft EIS for the TAGS project (52 FR 34424, Sep-

tember 11, 1987). An FEIS was issued June 11, 1988 (53 FR 24357, June 28, 1988).

urged that, if Yukon Pacific's application is approved, the authorization should be consistent with open, market-responsive development of Alaskan natural gas and not impose terms and conditions that would, in effect, place a stamp of approval on only one project or approach to development of Alaskan resources and discourage other projects or approaches.

F. TAPS Carriers and Alyeska (jointly)

The TAPS Carriers, users of the TAPS facilities, and Alyeska, operator of TAPS, took no position on whether the export authorization should be granted to Yukon Pacific but urged that any authorization be conditioned on review and approval of the engineering details of the TAGS facilities by the TAPS Carriers and by Alyeska. They stated that Yukon Pacific had not presented enough technical details for the commentors to be able to assess whether the proposed facilities would impede the safety, operation, or maintenance of TAPS.

G. Statoil

Statoil, which owns substantial reserves of natural gas on the Norwegian continental shelf, and plans to export and market LNG to the U.S. East Coast, stated that its LNG exports and those of other overseas suppliers would be able to meet any U.S. gas demand that might go unserved if North Slope gas is exported.

H. Yukon Pacific's Position

In support of its application, Yukon Pacific contends that there is no present or future domestic need for natural gas from the North Slope. To support its argument, Yukon Pacific submitted a study by the consulting firms of Dames & Moore and Decision Focus, Inc. (D&M study).³⁰ Yukon Pacific asserts that this study demonstrates that there are adequate gas supplies in the lower-48 states, Canada, and Mexico sufficient to meet U.S. demand in the foreseeable future without the Alaska gas that would be exported. The D&M study concludes that there will be no economic need for North Slope gas in the lower-48 states for at

least 30 years and that nearer supplies of Canadian Arctic gas would become competitive before North Slope gas.

Yukon Pacific also maintains that the export of North Slope natural gas to Pacific Rim countries would serve the public interest by reducing the U.S. trade deficit, strengthening international relations, and promoting Alaska's economic development. In addition, Yukon Pacific asserts that authorization of the TAGS project will inject an element of competition into the development of North Slope gas reserves that should prove healthy for both U.S. and Canadian natural gas markets. Further, Yukon Pacific argues that the TAGS project would not be detrimental to the interest of American consumers because the risks and costs associated with the construction and operation of the TAGS project, including the marketing of the gas, would be borne by the project's private sponsors and the foreign purchasers of the gas.

With respect to the availability of North Slope gas for TAGS and ANGTS, Yukon Pacific asserts that TAGS and ANGTS are not competitors since there are sufficient gas reserves on the North Slope for both projects. Moreover, Yukon Pacific asserts that the ANGTS project does not have an exclusive right to or first call on the reserves. Yukon Pacific argues that section 12 of ANGTA demonstrates that the U.S. Congress envisioned that North Slope gas might be exported and that the President's *Finding* determined that the public interest will be served by exports of North Slope gas.

With regard to construction compatibility between TAGS and ANGTS, as well as construction priority and cost allocation for jointly used facilities, such as the proposed Alaska Gas Conditioning Facility,³¹ Yukon Pacific contends that these matters are outside the jurisdiction of the DOE. Further, Yukon Pacific states that the gas conditioning facility is not part of the export project because it expects to purchase the gas from the North Slope producers after the gas is conditioned.

³⁰ See Dames & Moore and Decision Focus, Inc., *Analysis of Alaska Gas Market Potential In The Lower 48 States: Domestic Effect of Yukon Pacific's Proposed LNG Export* (August 22, 1988), included as Exhibit R to *Initial Comments of Yukon Pacific Corporation*, filed August 24, 1988.

³¹ As part of the ANGTS, Alaskan Northwest holds a conditional certificate from the FERC to construct and operate a gas conditioning plant, designated the Alaska Gas Conditioning Facility, on the North Slope at Prudhoe Bay.

Yukon Pacific states that it would accept two conditions on any grant of export authority: one condition would require that the LNG sales contracts be filed with the DOE after they have been executed, and the second condition would prohibit Yukon Pacific from passing on to consumers in the lower-48 states any of the risks or costs associated with the TAGS project. Yukon Pacific opposed the other conditions that the ANGTS sponsors requested because those conditions are either outside the DOE's jurisdiction and have no basis in law, or constitute improper government financing assistance to the ANGTS.

Finally, Yukon Pacific asserts that the information submitted in its application meets the requirements of section 590.202 of the DOE's administrative procedures and notes that those procedures give the DOE the flexibility to determine what information is required from an applicant based on the nature of the import or export requested.

V. Decision

Yukon Pacific filed its application for authorization to export North Slope gas under section 3 of the NGA.³² Section 3 creates a statutory presumption in favor of the approval of an export application, a presumption that must be overcome by evidence in the record of the proceeding

that the proposed export will not be consistent with the public interest.³³ Opponents of an application bear the burden of overcoming this presumption.

In judging whether to authorize a proposed export, the DOE is guided by Delegation Order No. 0204-111.³⁴ This order designates domestic need for the natural gas proposed to be exported as the only explicit criterion that must be considered in determining the public interest. In addition to domestic need, the DOE will consider other factors to the extent they are shown to be relevant to a public interest determination. Furthermore, in evaluating exports, the DOE is mindful of the broad energy policy principles set forth in the DOE's natural gas import policy guidelines. While those guidelines deal with imports, the principles are applicable to exports as well. The guidelines establish the policy that market forces will generally bring about results more in the public interest than will extensive regulation.

In addition to the framework of the NGA, this particular export proposal must also be viewed in light of the framework of ANGTA. ANGTA generally affects all actions that might relate to the ANGTS and, in particular, provides an additional statutory requirement for the export of North Slope gas.

³² Section 3 provides:

[N]o person shall export any natural gas from the United States to a foreign country or import any natural gas from a foreign country without first having secured an order from the [Federal Power] Commission authorizing it to do so. The Commission shall issue such order upon application, unless, after opportunity for hearing, it finds that the proposed exportation or importation will not be consistent with the public interest. The Commission may by its order grant such application, in whole or in part, with such modification and upon such terms and conditions as the Commission may find necessary or appropriate 15 U.S.C. Sec. 717b. With the adoption of the Department of Energy Organization Act in 1977 (DOE Act), Pub. L. No. 95-91, Congress transferred authority for all regulation of natural gas imports and exports under the NGA, including section 3, from the FPC to the Secretary of Energy. See sections 301(b) and 402(f) of the DOE Act, 42 U.S.C. 7151(b) and 7172(f). In Delegation Order No. 0204-127, the Secretary delegated to the Assistant Secretary for Fossil Energy the authority "to regulate natural gas imports and exports, pursuant to the Natural Gas Act." (Issued February 7, 1989, published at 54 FR 11436, March 20, 1989.)

³³ In *Panhandle Producers and Royalty Owners Association v. ERA*, 822 F.2d 1105 (D.C. Cir. 1987), the Court found that section 3 of the NGA "requires an affirmative showing of inconsistency with the public interest to deny an application" and that a "presumption favoring . . . authorization . . . is completely consistent with, if not mandated by, the statutory directive."

³⁴ 49 FR 6690, February 22, 1984. In granting the Assistant Secretary for Fossil Energy the NGA authority over natural gas imports and exports, the Secretary directed the Assistant Secretary to exercise this authority in accordance with the policies and practices that the ERA followed in regulating natural gas imports and exports under Delegation Order No. 0204-111. Thus, while the Assistant Secretary is granted the NGA authority entirely by Delegation Order No. 0204-127, the exercise of this authority takes into account the same factors prescribed by the Secretary to the ERA for consideration in connection with Delegation Order No. 0204-111.

A. Domestic Need

Yukon Pacific proposes to export up to 16.5 Tcf of gas as LNG over a 25-year period. This amount would be equivalent to about three percent of the total U.S. consumption of natural gas projected between 1996 and 2021. In the July 25 procedural order, the DOE set forth its three-pronged approach for evaluating domestic need. First, the DOE determines whether national or regional demand can reasonably be expected to exceed anticipated available domestic supplies over the term of the proposed export.³⁵ If there is a reasonable expectation of demand in excess of available domestic supplies, the DOE determines the extent to which this excess demand can be met by other energy sources as or more efficiently than by the proposed export. If there are sufficient alternative sources, the DOE analyzes whether there is any reason the public interest requires the proposed

export, in particular, be used to meet the excess demand.

Yukon Pacific, Alaskan Northwest, and Foothills presented evidence concerning the need for North Slope natural gas. For the most part, this evidence relates to studies which purport to demonstrate when North Slope natural gas would become competitive in the lower-48 states. These studies differ greatly in their findings. In general, the studies submitted by Yukon Pacific indicate that North Slope gas would not be competitive during the entire term of the proposed export, while those submitted by the ANGTS sponsors indicate that it would be competitive as early as the 1990's.

While studies such as those submitted in this proceeding are useful in assessing overall macro-economic conditions and probable market trends under certain scenarios, they are not as useful in assessing the future of particular energy projects.³⁶ As Alaskan Northwest stated in its reply

³⁵ Regional need is not an issue in this proceeding since no one asserts North Slope natural gas could be used to meet the energy needs of the populated areas of Alaska. There is no existing or contemplated delivery system to bring North Slope natural gas to these areas.

³⁶ The DOE is aware that many economic predictions do include North Slope gas as a supply used to meet domestic demand at some point in the future. The DOE does not equate these predictions with a demonstration that North Slope gas is needed in domestic markets. A prediction by an economic model that a particular gas supply will be used to meet demand does not mean that there are not adequate supplies of reasonably priced gas from other sources to meet the demand or that the other supplies may not actually cost less. Rather, it means the economic model has classified that particular supply as more "competitive" than supplies from other sources. Such a "competitive" classification is based entirely on the assumptions of the model and, at best, is only a rough approximation of the decisions that a competitive market actually will make. Unlike the real world where private parties take a hard look at the actual costs of bringing competing supplies to market, an economic model selects the "competitive" supply on the basis of assumptions about the general costs of broad categories of gas, expected exploration and drilling activity, the availability of transportation systems, and other factors, including the anticipated export policies of foreign governments many years in the future. In the case of ANGTS, most economic models put the cart before the horse since they automatically assume North Slope gas will be used in the

domestic market and then speculate when producers, pipeline sponsors, and financial institutions will agree that the market justifies the commitment of billions of dollars to provide the means necessary to make this "a priori" modeling assumption feasible in the real world.

Rather than demonstrate that a gas supply is needed, economic models indicate when the market may consider the use of a particular gas supply. In the case of North Slope gas, this function is especially suspect. Unlike other gas supplies, North Slope gas is predicted to be used in domestic markets not on the basis of comparisons to other supplies, but rather on the basis of the assumption when market conditions will justify the construction of ANGTS. In light of the history of ANGTS, this substitution of conjecture by economists for actual decisions by the private parties directly involved with ANGTS cannot be treated as having a high degree of certainty. ANGTS originally was scheduled to bring North Slope gas to the domestic market by the mid-1980's. Work on ANGTS, however, was suspended in 1982 and no commitments concerning its resumption have been made. Indeed, the uncertainty surrounding when and where North Slope gas will ultimately be used was emphasized in the recent action by the Energy Information Administration of the DOE to drop North Slope gas from U.S. proved reserves "because large uncertainties exist about the availability of a gas transportation system or other marketing alternatives for the bulk of North Slope gas." See advance summary, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquid Reserves, 1988 Annual Report*, DOE/EIA-0216(88), September 1989, at 1.

comments, "The world is simply too complex, too subject to change from unforeseeable actions by others and from uncontrollable forces to forecast with confidence 20 years or so into the future. Projections even 12 years ahead, to the turn of the century, realistically must be viewed with great caution."³⁷ In fact, the inherent imprecision of using economic studies to predict the performance of a particular project is one reason that led to the shift from a government-mandated regulatory approach to a market-oriented approach that leaves private commercial parties with the flexibility to determine the basics of their projects.

The submitted studies have been helpful, however, in evaluating domestic need since they all contain extensive information on supplies of various energy sources and anticipated demand. The DOE's review of the studies, set forth below, indicates that there are sufficient energy sources to meet domestic need without the use of North Slope natural gas.

1. Domestic Supplies

The D&M study, which was provided by Yukon Pacific, analyzed and compared several domestic gas resource forecasts published by various agencies and organizations. In particular, the D&M study focused on assessments produced by the DOE's Office of Policy, Planning, and Analysis (DOE/Argonne),³⁸ the Potential Gas Committee (PGC),³⁹ and the U.S. Geological Survey (USGS).⁴⁰ These three assessments estimate that there is in the lower-48 states a natural gas reserve and resource base that could be recovered ranging from 534 Tcf (USGS) to 1,059 (DOE/Argonne).⁴¹ PGC's estimate of 778.6 Tcf lies between the USGS and DOE totals. The USGS based its estimate of economically recoverable resources on a significantly lower wellhead price

(\$1.80/Mcf) than the price upon which the DOE/Argonne estimate is based. The lower price assumption in the USGS estimate, therefore, reduces the quantity of gas that is economically viable and leads to a lower total resource estimate. In addition, the varying estimates include different components of the resource base.

The DOE made a comparative evaluation of the results of the particular resource appraisals using the DOE/Argonne assessment as a benchmark because it contained resource categories not included in other gas resource estimates. The DOE/Argonne study used a new resource category "reserve growth," which refers to the additions to reserves that result from tapping additional gas sources located within known reservoirs, but not previously counted as reserves. In addition, the DOE/Argonne study estimates the potential for unconventional gas sources. The USGS study, for example, excludes all unconventional gas, including gas from tight sands, Devonian shale, coal seams and enhanced recovery—despite the fact that such gas is now being produced commercially. To put the USGS and PGC appraisals on an equivalent basis with the DOE/Argonne appraisal, 439 Tcf of gas from unconventional reserves and gas from infill drilling was added to the USGS estimate and 180 Tcf from infill drilling was added to the PGC estimate (the PGC estimate already includes an undefined quantity of unconventional resources). Adjusted, the USGS estimate (973 Tcf) and the PGC estimate (958.6 Tcf) are comparable to the DOE/Argonne estimate (1059 Tcf).

The demand forecasts that DOE examined to compare with the USGS, DOE/Argonne, and PGC resource appraisals were developed by the Gas Research Institute (GRI),⁴² the American Gas Association (AGA),⁴³ and the Data

³⁷ See *Reply Comments of Alaskan Northwest*, at 27.

³⁸ *An Assessment of the Natural Gas Resource Base of the United States* (May 1988), prepared by Argonne National Laboratory for the DOE's Office of Policy, Planning, and Analysis.

³⁹ PGC, *Potential Supply of Natural Gas in the United States*, Colorado School of Mines, December 1986 and April 1987.

⁴⁰ USGS Circular 860 (1981), *Estimates of Undiscovered Recoverable Conventional Resources of Oil and Gas in the United States*.

⁴¹ See D&M study, at 4-3.

⁴² See 1988 *Baseline Projection of U.S. Energy Supply and Demand*, attached as Exhibit H to *Reply Comments of Alaskan Northwest*.

⁴³ See the 1988 American Gas Association *T.E.R.A. Analysis* (January 15, 1988) attached as Appendix F to *Additional Comments of Foothills Pipe Lines (Yukon) Ltd.*, filed August 24, 1988.

Research Institute (DRI).⁴⁴ Portions of the studies by GRI, AGA, and DRI are appended to the comments of Alaskan Northwest and Foothills. Domestic natural gas consumption according to GRI was 17.6 quadrillion Btu (quads) in 1987 (a quad is approximately equivalent to a Tcf).⁴⁵ GRI projects consumption to grow at an average annual rate of 0.4 percent and reach 19.4 quads in 2010. According to projections by the AGA and DRI, natural gas consumption by 2010 is expected to be 21.7 quads and 17.6 quads, respectively.⁴⁶

The DOE adopted the highest of the projections for U.S. gas consumption in 2010 of 21.7 quads (that by AGA), which assumes a 1.0 percent increase per year in consumption after 1987, as a basis for comparing available supply to expected demand. Using 18.0 quads for consumption in 1988 as a starting point,⁴⁷ if expected growth is 1.0 percent per year, the DOE calculated that annual consumption would reach 25.0 quads by 2021 (the final year of the export project assuming Yukon Pacific begins exports in 1996 and operates for 25 years). Under this premise, cumulative consumption during the period 1988-2021 would be 725 quads (Tcf), well below the most conservative of the resource estimates.

The DOE also considered the economics of exploring for and developing new domestic supplies, focusing on the wellhead acquisition price of gas produced in the lower-48 states. In addition to its estimates for recoverable gas resources, the DOE/Argonne study provided an estimate of their availability by wellhead price. The results of the DOE/Argonne assessment reveal that more than half of the total gas resources evaluated in the lower-48 states, or 583 Tcf of gas, would be economically recoverable (including finding costs) at less than \$3.00/Mcf (1987 dollars). An additional 174 Tcf of gas was judged economically recoverable in a price range of \$3.00 to \$5.00/Mcf.

That would be enough gas (757 Tcf) that could potentially be recovered in the lower-48 states at costs below \$5.00 per Mcf (1987 dollars) to meet projected U.S. demand through the year 2021, whether or not North Slope gas is exported to the Pacific Rim.

The ANGTS sponsors assert that DOE should only consider proven natural gas reserves, rather than estimates of the total resource base, in assessing domestic need because the amount of non-proven reserves is subject to wide disagreement and periodic fluctuation. That approach would represent an overly conservative view of available natural gas supplies. The level of reserve additions, and ultimately the level of reserves, is dependent upon the amount of drilling which, in turn, is sensitive to advances in gas recovery technologies and is stimulated by the price of gas. Gradual shrinkage and eventual disappearance of the present supply surplus or "gas bubble" over the next few years, combined with the prospects for substantial increases in gas demand in certain market sectors should materially improve incentives to drill new wells. In addition, although the USGS, PGC, and DOE/Argonne resource estimates do not address the timing of production or the availability of transportation, all volumes of future natural gas supply beyond proven reserves included in the studies are based on information derived from past and current experience in gas production and reservoir development and reflect a conservative view of recoverability. Gas supply assumptions that focus solely on proved reserves and do not take into account the potential for reserve additions and production experience would severely distort forecasts of domestic need.

To support its argument that the proposed exports will be needed in the lower-48 states, Alaskan Northwest quotes from a report by Jensen Associates, Inc. (Jensen study).⁴⁸ Jensen Associ-

⁴⁴ See Data Research Institute *Natural Gas Review* (Summer 1988) attached as Appendix G to *Additional Comments of Foothills*.

⁴⁵ See GRI 1988 *Baseline Projection of U.S. Energy Supply and Demand*, at 5-6, *supra*.

⁴⁶ See AGA T.E.R.A. Analysis, at 24, *supra*. See also, DRI *Natural Gas Review*, at 7, *supra*.

⁴⁷ See DOE, Energy Information Administration, *Natural Gas Monthly*, July 1989, at 6.

⁴⁸ See *Assessment of the Domestic U.S. Need For North Slope Natural Gas Reserves*, Jensen Associates, Inc., included as Exhibit A to *Comments of Alaskan Northwest Natural Gas Transportation Company in Response to Order of the Economic Regulatory Administration*, filed August 24, 1988.

ates, Inc., was retained by Alaskan Northwest to analyze Yukon Pacific's application. The quote indicates that by 1996, "at present rates of consumption, the U.S. will have consumed a volume of gas equivalent to 79% of [its] present lower-48 proved reserves," implying that the supply of proven reserves will be nearly depleted.⁴⁹ In addition, a second Jensen report indicates that, in each of the last 20 years but one, the gas industry has not added enough gas reserves to replace production and that production is expected to continue to decline in certain regions.⁵⁰

It is true that if there are no reserve additions, then proved reserves would be zero at the end of the next decade. However, no expert we know of expects that U.S. reserves will be depleted by the year 2000. Even the Jensen study conditions the statement about consumed proven reserves by concluding that the existence of a gas surplus in 1996 "will be dependent on the effectiveness of the industry in exploring and developing [the Nation's] remaining gas resource base."⁵¹ The fact is, over time, more reserves are added to offset proven reserves drawdown. As Yukon Pacific points out, "[a forecaster] could have made an alarmist statement back in 1977 that by 1986, 85% of the U.S. proven reserves will be consumed, and that statement would be proven correct."⁵² The reality is that, during the same period, additions to proven reserves in the lower-48 states were such that as of December 31, 1988, the amount of proven reserves was 159 Tcf, down only 9 percent from 1977.⁵³

⁴⁹ *Id.*, at 10. Reserve and production statistics of the DOE's Energy Information Administration (EIA) show that the reserves-to-production ratio (R/P), that is, the relationship between natural gas proved reserves and production rates, over the years 1977-1988 fluctuated between 10 to 1 and 12 to 1 each year (increasing production rates relative to proved reserves or a decline in proved reserves causes a falling R/P ratio). See advance summary, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquid Reserves, 1988 Annual Report*, DOE/EIA-0216(88), September 1989, at 3. With this in mind, all that the 79% figure in the Jensen study actually indicates is that in 1988 the U.S. R/P ratio was about 10 to 1 and, therefore, the U.S. could be expected to consume about 10 percent of its proved reserves each year through 1996.

Furthermore, over the last nine years (1980-1988), proved gas reserves in the lower-48 states in fact declined only a total of about 4 percent.⁵⁴ The relatively stable reserve level has been due to the high reserve replacement rate which, during this period, averaged 93 percent in the lower-48 states.⁵⁵ The high average gas reserve replacement factor indicates the success of exploration and development activity in adding new gas reserves. Although drilling activity has declined since 1981, the DOE believes that statutory and policy changes in the regulatory framework for natural gas will open up marketing opportunities for companies throughout the industry and, as the "gas bubble" disappears, this should encourage the exploration necessary to stem the downward trend in levels of drilling.

Based on its analysis of the submitted studies, the DOE concludes that domestic need for natural gas during the term of Yukon Pacific's export proposal could be met by production from reservoirs in the lower-48 states without North Slope natural gas.

2. Alternative Supplies

The DOE believes that it is not necessary for the purpose of its section 3 determination to find that all future U.S. natural gas demand will be met entirely by production in the lower-48 states. Although gas produced in the lower-48 states is currently the primary source of natural gas supply, imports (mostly from Canada) meet about seven percent of U.S. gas requirements and they are projected to play an increasing role. The AGA, GRI, and DRI forecasts indicate that by

⁵⁰ See *A Critique of Yukon Pacific Corporation's Analysis of Domestic Need For North Slope Natural Gas*, attached as Exhibit G to *Reply Comments of Alaskan Northwest*, at 5.

⁵¹ *Id.*

⁵² See *Reply Comments of Yukon Pacific*, at 26.

⁵³ See *U.S. Crude Oil, Natural Gas, and Natural Gas Liquid Reserves*, DOE/EIA-0216(87), 1987 Annual Report, at 82; see also advance summary to 1988 Annual Report, at 8.

⁵⁴ *Id.*

⁵⁵ See *U.S. Crude Oil, Natural Gas, and Natural Gas Liquid Reserves*, (1977 through 1987) annual reports, DOE/EIA-0216; see also advance summary to 1988 annual report, *supra*.

the year 2010, from 3 to 4 Tcf annually of domestic market requirements will be supplied from sources external to the lower-48 states.⁵⁶ Yukon Pacific asserts that future domestic need in excess of lower-48 states' supplies can be met by non-Alaskan sources. The ANGTS sponsors maintain that both foreign imports and North Slope gas will be needed to meet future excess domestic need.

Pipeline deliveries from Canada are expected to remain the predominant supplemental supply source, with other imports, such as gas from Mexico or LNG from Algeria, Norway, or other foreign sources also contributing to total U.S. supply. Canada's present natural gas situation may be characterized as one of supply excess to that country's internal needs. The D&M study presented by Yukon Pacific examined assessments and projections of Canada's natural gas supply and resource based published by AGA,⁵⁷ the Canadian Energy Research Institute (CERI),⁵⁸ the U.S. Office of Technology Assessment,⁵⁹ the Canadian NEB,⁶⁰ and the Energy Modeling Forum.⁶¹ The CERI report also estimated domestic Canadian demand. The estimates of marketable natural gas range from about 97 Tcf to 197 Tcf. Recoverable resource estimates range from 205 Tcf to 426 Tcf. With a projected domestic demand of approximately 65 Tcf (CERI) between 1985 and 2010 and an R/P ratio of greater than 30, the DOE concludes that Canada has a large quantity of natural gas potentially available for export to the U.S. over the next few decades.

Although Mexico's current energy export policy favors using natural gas for its domestic energy needs while reserving oil for exports, Mexico has a large natural gas resource base potentially available to the U.S. market. Mexico's annual domestic consumption is about 1.25 Tcf.⁶² The

D&M study indicates that Mexico's proved reserves totaled 76.5 Tcf in 1986 with a R/P ratio of 61. There are no recent estimates for undiscovered recoverable resources, but they were estimated to be over 289 Tcf in 1985. Mexico's policy of limiting gas exports might well change in the longer term to take into account general gas availability, gas export revenue considerations, and physical limitations on using the gas internally.

Numerous countries are capable of supplying LNG to the U.S. and have expressed a serious interest in doing so. There are four LNG receiving and gasification terminals in the U.S. located on or accessible to the East Coast. They have a combined daily capacity of about 2 Bcf. Of these four, only Distrigas of Massachusetts Corporation's facility at Everett, Massachusetts, is currently operating. It brings Algerian LNG imports into the lower-48 states. Trunkline LNG Company has requested FERC permission to begin operating its facility at Lake Charles, Louisiana, in late 1989 to receive Algerian LNG. There is a potential for further LNG supplies for the U.S. after 1990, especially in the Atlantic region, from Algeria, Norway, Nigeria, Venezuela, and the Caribbean, because of the surpluses that exist in these relatively low-cost production areas. For example, development of the North Sea fields has resulted in vast additional reserves of gas that could be marketed in the U.S. Statoil is in the formulative stages of arranging for importation and marketing of LNG on the East Coast. In the case of Statoil, Norwegian reserves currently amount to about 110 Tcf. Of this total, only 30 Tcf are presently committed by contract to existing purchasers. According to Statoil, "when the U.S. market requires additional gas supplies, Statoil and other over-

⁵⁶ See Appendix F to *Additional Comments of Foothills*, the Table entitled "Natural Gas Supply", at 24 and Appendix G, at 7. See also Exhibit H to *Reply Comments of Alaskan Northwest*, at 13.

⁵⁷ *The Gas Energy Supply Outlook 1987-2010*, (October 1987).

⁵⁸ *Towards a Continental Natural Gas Market: Historical Perspectives and Long-Term Outlook. Executive Summary*, Study No. 26 (February 1988).

⁵⁹ *U.S. Natural Gas Availability, Gas Supply through the Year 2000*, February 1985.

⁶⁰ *Canadian Energy: Supply and Demand 1985-2005*, October 1986. See also, *National Energy Board Reasons for Decision in the Matter of Review of Natural Gas Surplus Determination Procedures*, September 1987a.

⁶¹ *EMF9 Summary Report-North American Natural Gas Market-Preliminary Draft*, August 1988.

⁶² See Exhibit A attached to January 24, 1989, *Prepared Statement of Vernon T. Jones*, Chairman of Board of Partners, Alaskan Northwest, which was submitted at the Alaska public conference, at 9.

seas LNG interests will be able to meet some or all of this demand."⁶³

In light of the data submitted by all of the parties, the DOE concludes that there would be sufficient North American and overseas gas supplies to meet potential domestic demand without North Slope gas.

3. Effects on Quantity, Quality, and Price

Since the record indicates that available energy supplies are sufficient to meet domestic need, the DOE has considered whether there is any reason that North Slope natural gas, rather than other energy supplies, should be used to meet the anticipated demand. The public interest lies in ensuring the availability of adequate supplies at competitive prices. Therefore, the DOE has considered whether there are any effects on supplies or prices that would result directly and uniquely because of the proposed export. The DOE also has considered whether the proposed export might have a direct and unique effect on matters such as the environment or energy security.

For the most part, the examination of these potential considerations corresponds to the provisions of section 12 of ANGTA, which prohibit exports of North Slope natural gas unless the President finds such exports will not affect American consumers adversely by diminishing the quantity or quality of available energy supplies or increasing the total price of available energy. President Reagan fulfilled this statutory condition precedent in 1988 when he issued the *Finding* in which it was determined that exports of North Slope natural gas will not affect American consumers adversely because there are adequate supplies of secure, reasonably-priced energy available to American consumers. While this generic finding by the President necessarily provides the DOE with significant guidance, the DOE has examined these matters of supply, price, and qualitative effect in the particular context of Yukon Pacific's application under section 3 of the NGA.

a. Quantity

The quantity of energy available to American consumers is not necessarily

diminished merely because a particular energy supply is exported. Depending on the market, the alternative to export may be to leave an energy supply unused altogether. Moreover, in the context of global energy interdependence, the export of a certain energy source may, by increasing worldwide supplies of energy, result in making other energy supplies available to American consumers. Accordingly, with respect to North Slope gas, it would be unduly simplistic to conclude that exports will necessarily diminish the quantity of energy available to American consumers. In this case, the alternative to exporting North Slope gas may be that it remains undeveloped, and therefore available to no one; conversely, exporting such gas may make available on the American market gas from foreign sources that would otherwise have gone to the Pacific Rim.

In the final analysis, the question whether the proposed export of North Slope gas will adversely affect the quantity of energy available to American consumers depends on whether the export will cause available supplies to be inadequate to meet domestic demand. As discussed previously, there is an adequate supply of domestic gas other than North Slope natural gas to meet domestic need; furthermore, alternative supplies, such as Canadian gas, are more than adequate replacements for any North Slope natural gas that might be exported. The DOE therefore believes that the quantity of energy available to American consumers will not be adversely affected by the proposed export.

b. Quality

There is no evidence that the export of North Slope natural gas will diminish the "quality" of energy available to American consumers. Quality is an amorphous term that can denote a wide range of effects. For the most part, the ANGTS sponsors assert that the proposed export could result in detrimental qualitative effects in the areas of the environmental and energy security.

The purported harm to the environment would result from the use of other fossil fuels, such as coal, to meet excess demand. While the DOE does not dispute

⁶³ See *Initial Comments of Statoil North America, Inc.*, filed August 24, 1988, at 5.

that some excess demand may be met by energy sources other than natural gas, it does not believe the proposed export will be the reason for such a decision. Since the DOE has found that natural gas demand in the lower-48 states can be satisfied by supplies exclusive of the North Slope, any decision by American consumers to use other forms of energy will result from factors that relate to the desirability of natural gas when compared to other energy options, not because the proposed export makes gas unavailable.⁶⁴

The ANGTS sponsors also assert that U.S. energy security would be impaired from consequent importing of natural gas or crude oil if the volumes proposed for export were unavailable to meet domestic demand. Even if the proposed export tends to increase energy imports, the DOE does not necessarily equate such a situation with energy insecurity. Energy security must be viewed in global terms: "Individual nations cannot go it alone; they are inevitably affected by the decisions and reaction of all other major market participants."⁶⁵

Finally, North Slope natural gas is an integral part of the North American energy market resource base. The efficient development of North Slope gas, which includes potential exports, will contribute to the overall performance of the North American energy market. Any decision to export some North Slope gas will result from a market decision that other portions of the energy market can better serve the needs of American consumers. DOE believes that true energy security lies in encouraging the most efficient operation of the North American and global energy market.

c. Price

In determining whether the proposed export would result in higher prices to American consumers, the DOE has

focused on the structure of the natural gas market to evaluate the likelihood that the proposed export will affect market conditions so that consumers pay more than they would if North Slope gas were not exported.⁶⁶ In general, conditions in the domestic market will establish the price for whatever natural gas is used to meet domestic need, regardless of the source of the gas. Neither North Slope gas nor any other specific supply will be the tail that wags the market price of natural gas. The export of a particular gas supply, such as North Slope gas, would exert upward pressure on the market price only if there were not adequate alternative supplies of energy to meet domestic need at a market-responsive price. Even then, the export would exert upward pressure only if the costs of producing and delivering the exported gas to the domestic market would be less than the costs of the energy supplies actually used to meet the marginal demand.

The DOE's supply/demand analysis indicates there are adequate supplies to meet future demand without North Slope gas. While future market prices will be determined by a variety of factors (including the highly variable cost of crude oil), the DOE believes that it is reasonable to assume that these supplies will be available at a market-responsive price. The DOE/Argonne study indicates that 583 Tcf of gas will be available from reserves in the lower-48 states at less than \$3.00/Mcf, while an additional 174 Tcf of gas will be available in a price range of \$3.00 to \$5.00/Mcf.

Even if imports of gas are used to meet some demand, the DOE does not believe that they would be more costly than North Slope gas. In light of the location of North Slope natural gas and the conditions under which it would be produced and delivered to the lower-48 states, the DOE believes that the costs of producing

⁶⁴ A study prepared by Argonne National Laboratory for the ERA was included in the TAGS EIS that analyzed the environmental effects of exporting North Slope gas instead of using it domestically. The analysis concluded that using other fossil fuels, such as coal, to meet a shortfall in supply equivalent to the proposed exports would have minimal effect on air pollution levels. See *An Assessment of the Potential Environmental Residuals in the Lower-48 States Arising from Alaskan Natural Gas Exports* (July 30, 1987), attached as

Appendix D to the draft EIS. The study was incorporated by reference in Appendix K of the FEIS.

⁶⁵ U.S. Department of Energy, *Energy Security: A Report to the President of the United States*, March 1987, at 222.

⁶⁶ Action under the NGA may "rely on reasonable economic propositions." See *Michigan Consolidated Gas Company v. FERC*, No. 88-1062, slip op., at 14-15 (D.C. Cir. August 18, 1989).

and delivering most alternative supplies, especially Canadian gas, would be comparable to or lower than the cost of North Slope gas. Accordingly, if North Slope gas is exported, there should not be any marginal upward price pressure and thus, there should be no disruption in market conditions which would effect the efficient operation of market forces and result in higher prices to American consumers.

The DOE has reviewed very carefully the economic analyses submitted by Yukon Pacific and the ANGTS sponsors that purport to show whether North Slope gas will be competitive with other gas supplies and whether its price will be higher or lower than other supplies.⁶⁷ For the most part, the DOE finds these analyses represent a duel between economists over economic models, rather than a comparison of the actual production and delivery costs of North Slope gas with other gas supplies. Neither Yukon Pacific nor the ANGTS sponsors have analyzed the costs of North Slope gas and alternative supplies in a manner that sets forth the rationale for calculating those costs or the actual cost factors used in the calculations.⁶⁸ Their conclusions are not persuasive concerning the comparative costs of North Slope gas and other supplies or the effects of the proposed export on domestic prices and do not constitute the substantial evidence necessary to overcome the DOE's analysis of the fundamental market conditions, the section 3 presumption in favor of export approval, and the President's *Finding*.

In summary, the DOE has determined that North Slope natural gas is not required to meet domestic need because there are adequate supplies of gas available in the lower-48 states, as well as secure foreign supplies, and that the proposed export will not adversely affect the

quantity, quality, or price of energy sources available to American consumers.

B. Other Public Interest Considerations

Although domestic need is the only factor specified by Delegation Order No. 204-111, the DOE considered the potential effects of the proposed export on the other aspects of the public interest. In particular, the DOE examined the effects on American consumers, energy production, the State of Alaska, international relations, and the environment.

1. American Consumers

A primary purpose of the NGA is protection of American consumers. In essence, the evaluation of domestic need is an examination of the effects of the proposed export on American consumers. As discussed in Section V.A., *supra*, the proposed export will not result in inadequate supplies or higher prices and thus will not be inconsistent with the public interest because of adverse effects on consumers.

During this proceeding, the ANGTS sponsors asserted that the proposed export may be inconsistent with the public interest because American consumers might somehow subsidize the export project. The DOE believes that those involved in the proposed export should bear the risk of the project and that none of the costs of the project should be borne by American consumers. Yukon Pacific has indicated that it does not expect American consumers to bear any of the risks or costs of the project and will not object to a condition that sets forth this principle. Accordingly, the DOE is attaching a condition to its approval of the proposed export that no cost of the export project may be recovered from American consumers. To assist in monitoring compliance with this condition, the DOE is requiring the submission of all contracts and other documents for the

⁶⁷ As discussed previously, "competitive" under the assumptions of an economic model does not necessarily translate into competitive in the real world. See *supra* note 37.

⁶⁸ For example, no party has provided any reason to believe that producers (and the State of Alaska) would be willing to receive wellhead prices for North Slope gas that are substantially lower than the wellhead price of other gas supplies. See Table 6-7 of the D&M study. Likewise, the DOE can find no discussion in the record that compares the actual costs of

delivering North Slope gas and Canadian gas to the lower-48 states or that provides a basis for assuming that the same factors that might lower the delivery costs of North Slope gas would not also operate to lower the delivery costs of Canadian gas. Rather than discuss such basic issues, the economic experts representing Yukon Pacific and the ANGTS sponsors chose to spar over whether to use the cost of service tariff for the ANGTS project that is on file with the FERC or a levelized cost tariff.

acquisition, transportation, and sale of North Slope gas in connection with the export project, when these documents are executed.

The DOE recognizes that situations may arise where American consumers could receive natural gas directly as a result of the export project. For example, consumers in Alaska may receive some North Slope natural gas transported through TAGS. The condition against the recovery of costs from American consumers is not intended to prevent Yukon Pacific from receiving payment for the sale of North Slope gas in the U.S. and from recovering the cost associated with those facilities used and useful for supplying such gas to consumers.

2. Energy Production

The U.S. public has a strong interest in the efficient production of the Nation's energy resources. While the interest of consumers and producers sometimes must be balanced in proceedings under the NGA, they coincide in this proceeding. Approval of the proposed export will have the beneficial effect of encouraging increased development of energy resources in Alaska.

The ANGTS sponsors question whether competition will spur exploration for and development of North Slope natural gas and they have indicated that the proposed export might result in the non-production of some North Slope gas. The DOE does not accept this contention.

Thirteen years have passed since the passage of ANGTA and no North Slope natural gas has been produced commercially. The introduction of competition will encourage a realistic assessment of the potential of North Slope natural gas and its early and more efficient development. It also will provide an incentive for discovering and developing additional reserves of natural gas on the North Slope. Several estimates have been published concerning the amount of North Slope proven reserves. Estimates published by the DOE's Energy Information Administration (EIA), the Alaska Oil and

Gas Conservation Commission (AOGCC), and the Alaska Department of Natural Resources (ADNR) indicate a range of proven reserves from 22.5 Tcf (AOGCC) to 33.9 Tcf (ADNR).⁶⁹ The EIA estimate of 24.6 Tcf lies between the AOGCC and ADNR estimates. The DOE/Argonne appraisal estimates the undiscovered recoverable gas for the onshore and offshore areas of the North Slope to be 89 Tcf. By combining these figures for proven reserves and potential gas reserves, the total gas resources of the North Slope would be in a range of 111.5 Tcf to 122.9 Tcf.

Producers of North Slope natural gas have supported approval of the proposed export. This support has not been based on their involvement in the export project, but rather on their belief that competition for North Slope natural gas is the best means to ensure its expeditious and efficient development. Indeed, Exxon has supported approval of the export in order to spur market competition and development efforts, even though its current analysis indicates the most likely market for North Slope gas is the lower-48 states.

3. State of Alaska

In making the public interest determination in this proceeding, the DOE has been especially mindful of the effects of the proposed export on the State of Alaska and its citizens. The State strongly supports approval of the proposed export because it would promote the development of Alaska's natural resources. The State indicates that the export project would provide significant benefits to the local economy through increased jobs, tax revenues, and royalty payments. Specifically, the TAGS FEIS indicated that construction of the TAGS facilities would create up to 7,200 new jobs during the peak year. Operations would employ about 550 people directly, and support over 1,000 more jobs indirectly. Royalty payments, state taxes, and property taxes are expected to produce about \$377 million in state government annual revenues. The benefits to Alaska are undisputed in the record.

⁶⁹ See EIA, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1987 Annual Report*, DOE/EIA-0216(87); AOGCC, *Bulletin*, "Estimate of Gas Reserves in Alaska," May 1988, at 4; and ADNR, *Historical and Projected Oil and Gas Consumption*, January

1989, Table 2.1. (Copies of relevant pages attached as Exhibits A-C in Alaskan Northwest's *Supplemental Comments Relating to January 24, 1989 Conference*, submitted February 7, 1989.)

4. International Effects

The international effects of a proposed export may also be significant in the public interest determination. In general, the DOE believes that the public interest is served best through a policy of free trade in energy resources. Such a policy promotes energy interdependence among all nations, rather than energy dependence on a few nations. Competition in world energy markets promotes the efficient development and consumption of energy resources, as well as lower prices, whereas economic distortions can arise from artificial barriers to the free flow of energy resources. Accordingly, the DOE believes that the public interest in free trade generally supports approval of proposed exports.

This particular export project has beneficial international effects in addition to those normally associated with free trade. The export project would serve markets in the strategically important Pacific Rim countries of Japan, South Korea, and Taiwan.⁷⁰ By increasing the energy security of these allies, the project, in effect, would strengthen our national security. In addition, the U.S. currently is experiencing a trade imbalance with these Pacific Rim countries. By increasing exports to these

countries, the export project would tend to mitigate this trade imbalance.

Of course, the public interest in international energy markets also requires consideration of the North American energy market. Accordingly, the DOE has given special consideration to the concerns of Canada, our major partner in the North American energy market. The Canadian concerns about the proposed export center on the effects of the approval of the export project on the U.S. Government's commitment to ANGTS.⁷¹

The U.S. Government has complied fully with its commitment to ANGTS by removing all regulatory impediments to the completion and operation of ANGTS by private parties. Moreover, it has assured Canada that it will not erect new regulatory barriers to the completion of ANGTS by private parties. In particular, the President's *Finding* reaffirmed all existing commitments to support the special regulatory treatment of the "prebuild" segments of the ANGTS, including the minimum revenue stream guarantees.

DOE does not believe approval of the proposed TAGS export to be inconsistent with the U.S. Government's commitment

⁷⁰ The U.S. Government has long recognized the potential strategic value of exporting North Slope natural gas to Pacific Rim markets. In 1983, President Reagan recognized the potential importance of North Slope gas to U.S. relations with Pacific Rim countries when he and Japanese Prime Minister Nakasone agreed to encourage private efforts to explore the possible export of North Slope gas. See *Joint Statement of President Reagan and Prime Minister Nakasone on Energy Cooperation*, November 11, 1983. See also June 17, 1983, letter from Secretary of Commerce Malcolm Baldrige to Bill Sheffield, Governor of Alaska in which the Secretary stated "The Administration views the development of Alaska North Slope natural gas as a major contribution to Western energy security, whether the gas is marketed in the United States or abroad, it reduces demand for OPEC and Soviet energy and clearly results in significant benefits to the U.S. economy."

⁷¹ The U.S. Department of State also has considered the Canadian concerns and has found the proposed export would not breach any agreement between the U.S. and Canada. In response to Canadian concerns about the viability of ANGTS, the State Department stated:

The United States Government continues to support development of the ANGTS pipeline based on

private sector financing. Its eventual development is a private sector decision, and must be based on private financing, as stated in the original 1977 Bilateral Agreement and repeated on many occasions since. Decisions on private sector financing can and should reflect the economic potential of the project as determined by market considerations. By the same token, the United States Government will not impede the private sector from developing other initiatives to develop Alaska North Slope gas. Like ANGTS, their development is a private sector decision, explicitly requiring private sector financing, and thus reflecting their economic potential as determined by the market place. . . . Other projects for developing [Alaska North Slope] gas resources will have to rise or fall on their economic merits, as determined by the market. . . . Our policy is that ANGTS, TAGS, or any other project for [Alaska North Slope] gas must be strictly private capital ventures, competing equally in the market place for financing. Such an approach would be consistent with our goal of allowing the market to determine how the gas is developed.

See letter from Mr. J.P. Ferriter to Mr. L.H. Legault, attached as Exhibit T to *Reply Comments* of Yukon Pacific.

to ANGTS. Approval of the proposed export will create no regulatory impediments to the completion and operation of ANGTS.⁷² The commitments of the U.S. and Canada to ANGTS did not include any pledges to impose a governmentally-dictated scheme of development on energy resources. To the contrary, the bilateral agreements on ANGTS were important first steps in the recognition that the interests of both countries are best served by letting the marketplace decide the most efficient development of energy resources with minimal governmental interference. The DOE believes that continuation of the commitment to removal of governmental impediments and deference to marketplace decisions eventually will result in the efficient development of North Slope natural gas.

5. The Environment

Environmental concerns are an important element of DOE's public interest consideration. In general, DOE considers environmental issues in the context of the National Environmental Policy Act of 1969 (NEPA).⁷³ The DOE participated as a cooperating agency during the preparation of and has adopted the TAGS FEIS⁷⁴ which examined the environmental effects of constructing and operating the TAGS pipeline, liquefaction facility, marine terminal, and related project components.⁷⁵ The publication of the FEIS

was the culmination of a comprehensive process that began with Yukon Pacific's application for a right-of-way permit in 1984. During the scoping process the DOE participated in six public meetings in Alaska in 1986 designed to identify the environmental issues and concerns related to the project. Additionally, the DOE participated in eight formal public hearings on the draft EIS in 1987 and thoroughly reviewed the draft EIS prior to the issuance of the FEIS. The DOE has concluded that the TAGS FEIS is a complete document that complies with the NEPA process and provides an adequate basis to evaluate the environmental aspects of the section 3 public interest determination concerning the export project.

The DOE used that FEIS, as well as its independent review, in assessing the environmental consequences of granting the proposed export. The DOE's findings are discussed in its *Record of Decision* for the Yukon Pacific project which was issued in conjunction with this order and is being published in the *Federal Register*.⁷⁶ The DOE determined that the overall physical impacts anticipated to the natural environment are relatively minor and can be mitigated, and thus are environmentally acceptable, especially when balanced against the substantial economic benefits to be derived from the project.⁷⁷

⁷² In fact, the DOE is including in this authorization a specific condition to ensure that the export will not be inconsistent with the framework adopted at the inception of ANGTS. See Section V.C., *infra*.

⁷³ 42 U.S.C. 4321, *et seq.*

⁷⁴ *Trans-Alaska Gas System Final Environmental Impact Statement* (FEIS BLM-AK-PT-88-003-1792-910, June, 1988). DOE/EIS-0139.

⁷⁵ The ANGTS sponsors questioned the treatment in the FEIS of the gas conditioning facility (GCF) that would be used by the TAGS project. The FEIS did not consider a GCF in the Prudhoe Bay area as part of the TAGS project. Rather, the FEIS considered the GCF as a connected action to be evaluated with regard to environmental effects when the plant configuration and technology are more certain. The FEIS conceptually described the GCF that would be needed to produce pipeline quality natural gas for TAGS and analyzed and discussed the potential environmental consequences as they presently exist for the construction and operation of the conceptual GCF if it was located at Prudhoe Bay adjacent

to Atlantic Richfield Company's existing Central Gas Conditioning Facility.

As noted previously, the unconstructed ANGTS holds a conditional certificate from the FERC to build and operate the Alaska Gas Conditioning Facility (AGCF) at Prudhoe Bay to support the proposed ANGTS project. The FEIS is based on the assumption that the ANGTS facilities will be built. The FEIS indicated that no significant cumulative effects are expected from the construction and operation of the AGCF and a stand-alone conditioning facility for TAGS located several miles south of the area identified for the AGCF.

⁷⁶ The *Record of Decision* was issued under the Council on Environmental Quality Regulations implementing the procedural provisions of NEPA and the DOE's guidelines for compliance with NEPA (52 FR 47662, December 15, 1987).

⁷⁷ The DOE notes that the physical impacts associated with the development of North Slope gas may occur regardless of whatever action the DOE takes since the ANGTS sponsors already have legislative and regulatory approval to construct ANGTS. As part of the

The FEIS indicates that the proposed export project can be constructed and operated in an environmentally acceptable manner provided that the specific mitigation measures identified in the FEIS are implemented. These measures include compliance with the tiered review process⁷⁸ set forth in the FEIS and any resulting environmental requirements, including the stipulations already required by BLM in the TAGS right-of-way. This compliance would minimize any negative social, economic, and environmental effects and promote the positive effects of the proposed TAGS project.

Following issuance of the FEIS, Exxon Shipping Company's crude oil tanker, the Exxon Valdez, went off course and ran aground in Prince William Sound on March 24, 1989, spilling 242,000 bbls of North Slope crude. The resulting damage to shoreline and wildlife has emphasized the need for strict preventive and mitigative measures to maintain transportation safety and protect the environment, as well as for comprehensive monitoring to ensure compliance with these measures. The DOE believes that energy projects can and must be undertaken consistent with environmentally acceptable practices. To ensure this result, the DOE is attaching a condition to the export approval that all aspects of the export project must be undertaken in accordance

(Footnote Continued)

approval process for ANGTS, the Council on Environmental Quality found the physical impacts of ANGTS (similar in nature to those predicted for TAGS) to be environmentally acceptable and this finding was ratified by the President and Congress. (See the President's *Decision on ANGTS* at 132-133).

⁷⁸ Yukon Pacific, BLM, and USACE are using a tiered approval system for the design and construction of the TAGS project. The fundamental approach used in the tiered mitigation process is: the development and approval of design criteria, final design, and the issuance of a "Notice to Proceed." Therefore, the discussion of mitigation measures in the FEIS tend to be generic and refer to site specific designs not yet done. Consistent with that tiered concept, BLM attached stipulations to its grant of a right-of-way for TAGS which specify that Yukon Pacific will submit for governmental approval certain plans and site specific designs before proceeding with field activities. These stipulations and subsequent plans will set forth the standards of performance for construction and operation of the pipeline, and termination of the right-of-way. The

with the appropriate environmental review process and must comply with any and all preventative and mitigative measures imposed by Federal or State agencies.

The DOE expects those agencies responsible for regulating the construction and operation of the proposed TAGS facilities to impose and strictly enforce all necessary measures to preserve and protect the natural environment and to incorporate within these measures the lessons that have been learned from the Exxon Valdez incident. In particular, the DOE is directing the FERC to consider the safety and environmental aspects of the export site and facilities, including the liquefaction plant, the marine terminal, the LNG tankers and their routes in Prince William Sound and U.S. territorial waters, prior to approving any export site or facilities.⁷⁹ This consideration should place particular emphasis on the need for the FERC to exercise the full extent of its section 3 authority to regulate the marine transportation of LNG if it approves an export site. Any FERC approval should include all appropriate preventive and mitigation measures to protect the public health, safety, and environment.

C. ANGTA

In addition to the public interest determination of section 3 of the NGA, the

stipulations cover (1) protection of the environment; (2) integrity of the pipeline system; (3) integrity and protection of adjacent or intersecting facilities, in particular, the TAPS and ANGTS pipelines; (4) public health and safety; and (5) effects on socioeconomic, subsistence, and cultural resources. Mitigation of environmental impacts and monitoring of the project by BLM will be primarily through monitoring, enforcement, and action under these stipulations.

⁷⁹ DOE Delegation Order 0204-112 delegated the FERC authority under section 3 of the NGA to approve or disapprove "the construction and operation of [export] facilities, the site at which such facilities shall be located, and the place of . . . exit for exports" of natural gas, as well as the authority to exercise the functions under sections 4, 5, and 7 of the NGA with respect to exports. See 49 FR 6690 (February 22, 1984). Any exercise of authority under this delegation order, however, must be consistent with the terms and conditions under which the DOE authorizes an export and with the DOE's policies.

71 250

DOE has considered the proposed export in light of the statutory framework of ANGTA as it relates to exports of North Slope natural gas. Section 12 of ANGTA prohibits the export of North Slope gas in the absence of a finding that the export will not affect American consumers adversely. Section 9 of ANGTA requires the DOE to assess whether a regulatory action would significantly impair the construction or initial operation of ANGTS.

The ANGTS sponsors argue that the proposed export is inconsistent with the framework of ANGTA because it would make completion and operation of ANGTS more expensive or impractical and thus cannot be approved. In particular, they assert that the proposed export would affect ANGTS adversely because (1) there are insufficient proven reserves of North Slope gas to support the proposed export and ANGTS, (2) the export project would increase the costs of ANGTS, and (3) in certain locations, the construction and operation of two natural gas pipelines would be impractical or impossible.

The DOE evaluated these concerns in light of the framework of ANGTA. As discussed in the July 25 procedural order, this evaluation focused on the direct effect that regulatory action might have on the ability of the ANGTS sponsors to proceed with its expeditious construction and operation. ANGTA was intended to remove regulatory roadblocks that could impede the prompt commencement and completion of the ANGTS. However, ANGTA neither contemplates the insulation of ANGTS from all competition nor requires the creation of regulatory obstacles to other North Slope gas projects.

The DOE does not think that ANGTA mandates the rejection of a proposed export because there may be insufficient proven reserves for both the proposed export and ANGTS. Neither does it require the imposition of a condition to set aside certain reserves for ANGTS.⁸⁰

⁸⁰ In this regard, DOE notes the statement of Senator Henry Jackson when the Senate approved ANGTA that "ANGTA is a procedural bill which, unless otherwise explicitly stated, does not modify existing rights and obligations of affected persons." 122 Cong. Record 22018, 22023 (July 1, 1976).

⁸¹ Mr. George McHenry, representing Foot-hills, stated at the public conference in

Such actions would be inconsistent with the framework of ANGTA. ANGTA neither grants ANGTS an exclusive license to North Slope gas nor dedicates any particular reserves to ANGTS.⁸¹

ANGTA was enacted to establish a process for selecting a transportation system to bring natural gas from the North Slope of Alaska to the lower-48 states and to facilitate its construction and operation. Contrary to the assertions of the ANGTS sponsors, ANGTA was not intended to somehow mandate the use of North Slope gas in the domestic market or to limit its export to formal exchanges of energy supplies. In fact, section 12 of ANGTA explicitly addresses the export of North Slope gas and permits the export on the same basis as any other gas once the President finds, as has occurred, that the export will not be detrimental to American consumers. There is no hint in ANGTA or its legislative history that Congress intended *sub silentio* to link the export of North Slope gas to the effect on ANGTS. To the contrary, decisions concerning ANGTS were to be made by private parties on the basis of actual market conditions without any governmental subsidies.

Currently Yukon Pacific, the ANGTS sponsors, or any other private party is free to negotiate and sign contracts with the producers of North Slope gas. Regulatory approval of the proposed export will not change this situation. Rejecting the proposed export or imposing a condition on the proposed export to set aside certain North Slope gas for ANGTS would not be a measure to mitigate the effects of regulatory action, but rather the creation of a regulatory obstacle to competition for North Slope gas. Such action is not mandated by ANGTA and, in fact, would be inconsistent with the explicit language in ANGTA that permits exports of North Slope natural gas if the requirements of section 3 of NGA and section 12 of ANGTA are met.

Anchorage on January 25, 1989, that "we have never suggested that the ANGTS sponsors own the North Slope reserves or they were given by Congress to the sponsors of the ANGTS. What we have said is that producers own those reserves and obviously they have the right to enter into contracts with whomever they please." See *Transcript*, at 148.

" 70 250

Unlike the asserted concerns about reserves, the effects of TAGS on the costs and physical feasibility of constructing and operating ANGTS do come within the intended framework of ANGTA since they could directly impair its construction and operation. The ANGTS sponsors have presented sufficient evidence to demonstrate that the proximity of the TAGS pipeline to ANGTS in many locations creates the potential that ANGTS may become significantly more expensive, or even impossible to construct and operate because of the proposed export. There is no evidence, however, that this potentiality cannot be managed in a manner that permits TAGS to be constructed and operated without impairing the construction and operation of ANGTS.

The DOE does not believe that it is either feasible or necessary to resolve the management of every potential interaction between TAGS and ANGTS prior to the approval of the proposed export. Such an effort would be enormously time-consuming and inefficient since, while a large number of potential situations for adverse interaction between TAGS and ANGTS would be hypothesized, the number of actual situations most likely will be small. The DOE has decided that the export can be approved consistently with the framework of ANGTA, and in particular section 9, if it exercises its plenary authority under section 3 of the NGA to attach to the approval a condition that incorporates the requirements of section 9. In particular, this "ANGTA condition" will prohibit Yukon Pacific from taking any action that would compel a change in the basic nature and general route of ANGTS or otherwise prevent or impair in any significant respect its expeditious construction and initial operation.⁸²

⁸² The DOE has not included a similar condition with respect to TAPS because the oil pipeline already is constructed and there is no statutory provision for TAPS comparable to ANGTA. Moreover, the TAPS right-of-way, like the ANGTS right-of-way, prohibits any incompatible uses by holders of subsequent rights-of-way on or adjacent to the right-of-way. In addition, the TAGS right-of-way makes the proposed export project subject to the pre-existing rights-of-way for TAPS and ANGTS. Enforcement of these provisions will prevent actions by Yukon Pacific that are incompatible with TAPS.

⁸³ ANGTA established the Office of Federal Inspector (OFI) to coordinate and monitor

Since the DOE is exercising its plenary authority under section 3, the "ANGTA condition" extends to the pipeline and related facilities, such as a gas conditioning plant or any support facility or resource. It does not extend to natural gas reserves. As discussed previously, the ANGTA framework draws a clear distinction between the construction and operation of ANGTS and market decisions concerning the development of North Slope natural gas.

The DOE does not intend the "ANGTA condition" to be used as a means to delay or otherwise burden the proposed export project unnecessarily. The ANGTS sponsors must demonstrate the adverse effect on ANGTS of an action by Yukon Pacific. This demonstration may not be speculative, but rather should be based on facts which clearly show that an action directly will increase the cost of constructing or operating ANGTS or will make constructing or operating ANGTS impractical. Where the ANGTS sponsors demonstrate increased costs, Yukon Pacific will be presumed to satisfy the "ANGTA condition" if it agrees to compensate the ANGTS sponsors by paying the larger of the increased costs or its proportionate share of the overall costs of the measures necessary to mitigate the effects of TAGS on ANGTS. Where the ANGTS sponsors demonstrate that TAGS will make constructing or operating ANGTS impracticable, Yukon Pacific will be presumed to satisfy the "ANGTA condition" if it agrees to modify its project to avoid the problem or, where appropriate, to construct joint facilities which accommodate the needs of ANGTS.⁸³

Federal activity concerning ANGTS. Reorganization Plan No. 1 of 1979 (Reorganization Plan) (44 FR 33663, June 12, 1979) transferred to OFI exclusive responsibility for enforcing all Federal statutes, regulations, and authorizations relevant in any manner to the preconstruction, construction, and initial operation of ANGTS. In areas where TAGS and ANGTS would interact, OFI would have responsibility to determine the compatibility of TAGS with ANGTS, to review and approve designs, plans, and schedules, and to enforce the provisions and requirements of Federal authorizations such as the TAGS right-of-way when it is on or adjacent to the ANGTS right-of-way.

D. Other Matters

Section 3 of the NGA provides plenary authority over all aspects of an export where the public interest requires the exercise of such authority.⁸⁴ In general, the DOE refrains from exercising the full extent of its section 3 authority unless it determines action is necessary to avoid a regulatory gap inconsistent with the public interest or to preserve the integrity of the export approval and the underlying public interest determination.

The DOE has examined all aspects of the export project to determine the extent to which it should exercise its plenary authority in this proceeding. Since the proposed export project will be subject to comprehensive regulatory oversight by the State of Alaska, BLM, USACE, FERC, and other Federal agencies, DOE has determined that the need to exercise its plenary authority is limited.⁸⁵ DOE has determined, however, that there are certain situations where the exercise of this authority is appropriate.⁸⁶

The gas conditioning facilities have been the subject of much controversy in this proceeding. Yukon Pacific asserts that the conditioning plant is not part of its project and should not be considered in this proceeding. The ANGTS sponsors argue that the conditioning plant should be considered because of its potential effects on the environment and because of the issues that would arise if TAGS and ANGTS share a conditioning plant. Since the DOE's regulatory authority over exports extends to the wellhead, the conditioning plant comes within its purview.

(Footnote Continued)

Since the "ANGTA condition" in this authorization is directly relevant to ANGTS, OFI will be responsible for its enforcement. Pursuant to Section 2-202(c) of the Reorganization Plan, OFI is required to follow the policies of the agency that otherwise would be responsible for the enforcement function and the DOE reserves the right to announce specific policy measures to enforce this condition. The DOE emphasizes that its general policy is that this condition shall not be enforced in a manner that unduly delays or hinders any aspect of Yukon Pacific's export project and that expeditious procedures should be followed to resolve any disputes concerning this condition.

⁸⁴ In *Distrigas Corporation v. FPC*, 495 F.2d 1057 (D.C. Cir. 1974), cert. denied, 419 U.S. 834 (1974), the court found that section 3 of

The DOE believes that any environmental concerns can be mitigated in an acceptable manner whether TAGS and ANGTS share a gas conditioning plant or they construct separate facilities. DOE expects the tiered process contemplated in the FEIS will take place for all aspects of the TAGS project, including the conditioning plant and production facilities that will be used to supply the gas to be exported. As discussed in section V.B.5 *supra*, the DOE is attaching a condition to the export approval that all aspects of the export project, regardless of whether they are undertaken by Yukon Pacific, must be undertaken in accordance with the appropriate environmental review process, and must comply with any and all environmental preventive and mitigative measures imposed by federal or state agencies.

The potential for sharing a gas conditioning plant also raises another issue for which action by DOE is appropriate. In general, the cost and practicality aspects of sharing such a facility are covered by the "ANGTA condition." However, the question of the jurisdiction of the FERC makes additional action appropriate. The DOE Organization Act gives the Secretary of Energy all NGA authority over natural gas imports and exports. The FERC cannot exercise any authority over imports or exports unless the Secretary assigns such a function to the FERC. While the Secretary has delegated to the FERC some authority over the siting, construction, and operation of import and export facilities and over imports and exports once they are in interstate com-

the NGA provides the authority for "comprehensive regulation" where such power is "responsibly exercised" to protect the public interest. "Section 3 supplies . . . not only . . . the power necessary to prevent gaps in regulation, but also . . . flexibility in exercising that power." 495 F.2d at 1064. The court also made clear that power under section 3 extends equally to imports and exports. 495 F.2d at 1063; see also, *Border Pipe Line Company v. FPC*, 171 F.2d 149 (1948).

⁸⁵ See Appendix S to *Initial Comments* of Yukon Pacific at 36-55 for a description of the regulatory oversight by various federal and state agencies to which TAGS will be subject.

⁸⁶ As discussed previously, the "ANGTA condition" will extend to all aspects of the export project.

merce,⁸⁷ the exercise of that authority is subject to any terms or conditions attached by the DOE to the import or export approval.⁸⁸ In order to avoid overlap with enforcement of the "ANGTA condition" and to relieve the export from duplicative and unnecessary regulation, the DOE has decided to exercise its authority to limit any jurisdiction the FERC might otherwise acquire over the export project in the event TAGS and ANGTS share a facility that is subject to the FERC's interstate commerce jurisdiction, such as the Alaska Gas Conditioning Facility proposed by the ANGTS sponsors. The FERC shall only exercise such authority over the export project to the extent necessary to ensure that the shared facility is constructed and operated in accordance with FERC's regulations, including those concerning the environment. The FERC shall have no other authority over Yukon Pacific's export project, including its rates, except to the extent necessary to ensure that Yukon Pacific pays its part of the costs of any shared facility. The DOE intends this limitation on the FERC's authority to apply not only to the gas conditioning plant, but also to any other facility subject to the FERC's jurisdiction that the export project might utilize. This limitation does not apply to the FERC's section 3 authority over the liquefaction plant, marine terminal, and transportation of the LNG.

With respect to the liquefaction plant and marine terminal, the Secretary delegated to the FERC section 3 authority over the siting and construction of new import/export facilities. This delegation stipulates that the FERC cannot approve any site that the DOE disapproves. On the basis of its environmental review, the DOE has concluded that the Valdez export site is preferable to all other export sites that were considered in the FEIS, including the Cook Inlet site. Three factors discussed in the FEIS indicate that Port Valdez is environmentally preferable to the Cook Inlet alternative. First, the Cook Inlet alternative creates new disturbances in Minto Flats, an important sub-

sistence use area. By contrast, the impacts of the proposed project are in an existing transportation and utility corridor. Second, the Cook Inlet alternative crosses Denali National Park and Preserve, and would impact visitors traveling to and from the park. While the proposed project would impact visitors and travelers elsewhere, Denali has the greater concentration. Finally, the Cook Inlet alternative includes a 15-mile subsea crossing, an impact to an ecosystem that does not occur under the proposed project. Accordingly, the DOE disapproves all sites other than the Valdez site. This action should not be interpreted as approval of the Valdez site. As discussed previously in Section V.B.5. *supra*, the DOE is requiring as Departmental policy that the FERC conduct its own examination of the health, safety, and environmental impacts associated with Yukon Pacific's use of the Valdez site for its proposed export project, including the liquefaction plant, the marine terminal, the LNG tankers, and the LNG tanker routes, and that it impose all appropriate conditions to mitigate the environmental effects resulting from the construction and operation of those facilities.

VI. Conclusion

After taking into consideration all the information in the record of this proceeding, I find that granting Yukon Pacific authority to export up to 14 million metric tons annually of liquefied North Slope natural gas for sale to the Pacific Rim countries of Japan, South Korea, and Taiwan during a term of 25 years has not been shown to be inconsistent with the public interest.

ORDER

For the reasons set forth above, pursuant to section 3 of the Natural Gas Act, it is ordered that:

A. Yukon Pacific Corporation (Yukon Pacific) is authorized to export for sale to Japan, South Korea, and Taiwan a total of up to 14 million metric tons of liquefied natural gas (LNG) annually from the North Slope of Alaska over a 25-year

⁸⁷ See DOE Delegation Order No. 0204-112, *supra* note 79.

⁸⁸ In *TransCanada Pipelines v. FERC*, No. 87-1229, June 16, 1989, the D.C. Circuit Court of Appeals found "Congress specifically pre-

cluded FERC from exercising its general ratemaking authority over imported [and exported] gas except to the extent that the Secretary expressly delegates the task to FERC." *Slip op.*, at 11; see also *id.*, at 7-9.

period beginning on the date of the first delivery, upon the conditions herein set forth.

B. For purposes of this Order, the "export project" means the Trans-Alaska Gas System (TAGS) and all appurtenant facilities, including production facilities, gas conditioning facilities, liquefaction plant, marine terminal, and LNG tankers.

C. With respect to the place of exportation for the LNG authorized in Ordering Paragraph A above, all locations other than Port Valdez, Alaska, are hereby rejected.

D. No cost of the export project shall be recovered from U.S. consumers of natural gas except to the extent that the cost relates to facilities and natural gas used and useful for supplying North Slope natural gas to the U.S. consumers.

E. No action shall be taken in connection with the export project that would compel a change in the basic nature and general route of the Alaska Natural Gas Transportation System (ANGTS) or otherwise prevent or impair in any significant respect the expeditious construction and initial operation of ANGTS.

F. All aspects of the export project shall be implemented in accordance with all applicable environmental procedures and requirements and shall comply with all preventive and mitigative measures imposed by Federal and State agencies to protect the public health, safety and environment.

G. All contracts and other documents that underlie the acquisition, transportation, and sale of North Slope gas authorized herein shall be filed with the DOE within 30 days of their execution.

H. Within 48 hours after deliveries begin, Yukon Pacific shall notify the

Office of Fuels Programs, Fossil Energy, Room 3F-056, FE-50, 1000 Independence Avenue, S.W., Washington, D.C. 20585, in writing of the date that the first export of LNG authorized in Ordering Paragraph A above occurs.

I. With respect to the exports authorized by this Order, Yukon Pacific shall file reports with the Office of Fuels Programs (1) after the first full calendar month of service, and (2) within thirty days following each calendar quarter, indicating, whether sales of exported natural gas have been made, and if so, giving by month, the total volume of exports in Mcf and the average price for exports per MMBtu delivered to each respective purchaser. The reports shall also provide the details of each export transaction, including the name(s) of the purchaser(s), LNG tankers utilized, volumes sold to each purchaser, and identification of markets served.

J. Except for the authority under DOE Delegation Order No. 0204-112 over the export site, including the liquefaction plant, marine terminal, and related transportation of LNG, the Federal Energy Regulatory Commission (FERC) shall exercise no authority over the export project except to the extent necessary to ensure that (1) any facility used for the provision of natural gas from Alaska to another state and thereby subject to the FERC's interstate commerce jurisdiction is constructed and operated in accordance with the FERC's regulations, including those concerning the environment, and (2) the export project pays its share of the costs of any such facility.

Issued in Washington, D.C., on November 16, 1989.

DOE/OFE Confirmation of Order
350A (March 8, 1990).

003

¶ 70,303

Yukon Pacific Corporation (ERA Docket No. 87-68-LNG), March 8, 1990.

DOE/FE Opinion and Order No. 350-A

Order Denying Requests for Rehearing and Modifying Prior Order for Purpose of Clarification

I. Background

On November 16, 1989, the Office of Fossil Energy (FE) of the Department of Energy (DOE) issued DOE/FE Opinion and Order No. 350 (Order 350).¹ Order 350 granted Yukon Pacific Corporation (Yukon Pacific) authorization under section 3 of the Natural Gas Act (NGA) to export natural gas produced in the North Slope region of Alaska to the Pacific Rim countries of Japan, South Korea, and Taiwan. Yukon Pacific plans to build the Trans-Alaska Gas System (TAGS) to deliver gas from Prudhoe Bay to Port Valdez on Alaska's southern coast, where it would be converted to liquefied natural gas (LNG) and shipped by tanker to

Pacific Rim customers. On December 15, 1989, Alaskan Northwest Natural Gas Transportation Company (Alaskan Northwest) and Foothills Pipe Lines (Yukon) Ltd. (Foothills), sponsors of a competing private commercial project, the Alaska Natural Gas Transportation System (ANGTS),² filed individual applications for rehearing of Order 350. On the same date, Yukon Pacific filed a request for clarification.

II. Requests for Rehearing

Alaskan Northwest and Foothills specified numerous alleged errors in the DOE's decision. A list of these alleged errors is contained in the appendix of this order.

¹ 1 FE ¶ 70,259.

² ANGTS is a project to deliver North Slope natural gas to markets in the lower-48 states

by means of a pipeline across Alaska and Canada.

Their applications restate arguments the ANGTS sponsors urged previously in this proceeding and do not provide any new relevant and material information. Their principal arguments may be summarized as follows: (A) Order 350 is inconsistent with the Alaska Natural Gas Transportation Act (ANGTA),³ the 1977 bilateral agreement between the U.S. and Canada relating to the ANGTS,⁴ and the measures taken to implement these documents (hereafter collectively referred to as the ANGTA framework); (B) Order 350 improperly permits Yukon Pacific to compete for North Slope natural gas reserves that "belong" to the ANGTS project; (C) Order 350 represents a taking of property and violation of substantive due process with respect to Alaskan Northwest's and Foothills' "franchise" to bring North Slope gas to the lower-48 states; (D) the export of North Slope gas is not consistent with the public interest; (E) the DOE did not comply with statutory, regulatory, and procedural due process requirements in issuing Order 350; and (F) Order 350 improperly restricts the regulatory authority of the Federal Energy Regulatory Commission (FERC) and the Office of Federal Inspector (OFI) for the ANGTS.

The DOE has considered carefully all of the arguments made by Alaskan Northwest and Foothills and is not persuaded to change Order 350. Their applications for rehearing fail to overcome either the general presumption favoring export authorizations mandated by section 3 of the NGA or the substantial evidence in the record of this proceeding that exports of North Slope gas would be consistent with the public interest. Therefore, the applications for rehearing are

denied in their entirety. In the following paragraphs, the DOE sets forth its views on the principal arguments of Alaskan Northwest and Foothills.

A. Order 350 is Consistent with the ANGTA Framework and Provides Explicit Protection for ANGTS.

Many of Alaskan Northwest's and Foothills' arguments flow from the contention that the ANGTA framework requires that any project competing with ANGTS be rejected or at least severely restricted.⁵ Prior to the issuance of Order 350, the DOE considered these arguments and found them unpersuasive. The ANGTA framework cleared the administrative path for the construction and operation of ANGTS. It did not guarantee financing for ANGTS or block competition for the development of North Slope natural gas.⁶

The U.S. Government has taken all actions necessary to implement the ANGTA framework. Nothing in Order 350 affects these actions. All the special statutory and regulatory treatment for ANGTS remains intact, ready to be used whenever the sponsors decide, after years in abeyance, to resume its construction.

With respect to the assurances to Canada concerning ANGTS, the DOE again rejects the assertions by Alaskan Northwest and Foothills that authorizing exports of North Slope gas is inconsistent with this aspect of the ANGTA framework. Order 350 stated:

The U.S. Government has complied fully with its commitment to ANGTS by removing all regulatory impediments to the completion and operation of ANGTS by private parties [and] ...

³ 15 U.S.C. 719 *et seq.*

⁴ *Agreement Between the United States of America and Canada on Principles Applicable to a Northern Natural Gas Pipeline*, September 20, 1977, U.S.T. 3581, T.I.A.S. 9030.

⁵ See Alaskan Northwest's stated errors (1)(a), (1)(b), (1)(c), (2), and (6) listed in the appendix of this order; see also Foothills' stated errors (1), (2), (3), and (5)(c). The DOE notes that while Alaskan Northwest and Foothills argue the ANGTA framework somehow imposes additional or different legal requirements on the DOE when it considers the export of North Slope gas, they also take the position "that judicial review of [Order 350] must occur under Section 19 of the Natural Gas Act ... rather than under section 10 of ANGTA." See

Protective Complaint Under the Alaska Natural Gas Transportation Act Challenging Order of the Department of Energy Office of Fossil Energy filed by Foothills with the U.S. Court of Appeals for the District of Columbia on January 12, 1990. They cannot have it both ways. Since it is clear claims under ANGTA must be litigated under section 10, Alaskan Northwest and Foothills would be in an untenable position if they urged jurisdiction under section 19 of the NGA and also alleged that DOE violated ANGTA.

⁶ See Order 350, at pages 38-41, for a full description of the ANGTA framework; see also DOE's procedural order issued in this docket on July 25, 1988, at 19-22.

has assured Canada that it will not erect new regulatory barriers to the completion of ANGTS by private parties.⁷

Order 350 does not conflict with the continuation of this commitment in any way. Mr. Richard T. McCormack, Undersecretary of State for Economic Affairs responded to Canada's concerns about Order 350 in a letter to Mr. Derek H. Burney, the Canadian Ambassador to the U.S.⁸ He said:

The United States Government has fulfilled, and continues to fulfill, its commitments to ANGTS . . . [W]e believe it would be inconsistent with market principles if we were to impose regulatory restrictions on private sector projects while advocating a private sector solution for ANGTS. Put another way, if we refused to grant the approvals [to TAGS] we would, in effect, be putting ourselves in the position of allocating gas among projects which, apart from its inconsistency with the principle of market-determined resource allocation, ignores the fact that this gas is owned by private firms and not the U.S. Government.

⁷ See Order 350, at 33-34.

⁸ Mr. McCormack forwarded this letter of January 29, 1990, to the DOE (and a letter from Ambassador Burney to him dated December 20, 1989) for inclusion in the record of this case. We have done so. In addition, W. Henson Moore, the Deputy Secretary of Energy, received a letter dated December 28, 1989, from Ambassador Burney expressing Canada's concerns about Order 350 and, in particular, its effect on the commercial viability of ANGTS. Ambassador Burney enclosed a copy of his letter to Mr. McCormack. The DOE placed in the record the Ambassador's letter to Mr. Moore and the Deputy Secretary's reply dated January 30, 1990.

On January 5, 1990, Alaskan Northwest and Foothills filed a joint motion for the DOE to lodge in the record the December 20, 1989, letter from Ambassador Burney to Mr. McCormack. This motion is moot because the letter already has been placed in the record.

⁹ Order 350 defined the export project to include the pipeline and all appurtenant facilities, including production facilities, gas conditioning facilities, liquefaction plant, marine terminal, and LNG tankers.

¹⁰ Although the "ANGTA condition" repeats the language of section 9 of ANGTA, it is neither duplicative of nor mandated by the ANGTA framework since section 9 only applies to authorizations for the construction and ini-

Moreover, Order 350 invokes the Department's plenary authority under section 3 of the NGA to include the "ANGTA condition." This condition prohibits explicitly any action in connection with the export project⁹ "that would compel a change in the basic nature and general route of [ANGTS] or otherwise prevent or impair in any significant respect the expeditious construction and initial operation of ANGTS."¹⁰ The DOE adopted this condition because it determined the public interest would be served by protecting the physical integrity of ANGTS. Even though the policy considerations that led the DOE to adopt this condition overlap, to some extent, those which support the ANGTA framework, neither the condition nor any other action under Order 350 was taken because of, or in violation of, some requirement or limitation in ANGTA.¹¹ Adoption of the "ANGTA condition" resulted from the same process by which the DOE ordinarily considers the policies that underlie various statutory frameworks, such as the antitrust laws, to the extent they are relevant to the public interest in a particular import or export application, even though

tial operation of ANGTS. Section 9 is a statutory privilege granted the ANGTS sponsors to prevent government agencies from granting or modifying authorizations for the ANGTS in a manner that would hinder its expeditious construction and operation. Section 9 does not apply to authorizations for projects other than ANGTS.

¹¹ The applications for rehearing filed by Alaskan Northwest and Foothills continue their efforts to modify this NGA section 3 proceeding by reading in requirements from ANGTA. ANGTA, however, did not change the existing process or requirements under section 3 of the NGA for authorization to export natural gas. It only added the requirement for North Slope gas that the President must find its export "will not diminish the total quantity or quality nor increase the total price of energy available to the United States." The decision whether to authorize exports of North Slope gas under section 3 is made independently of the *Presidential Finding Concerning Alaskan Natural Gas* issued on January 12, 1988 (53 FR 999, January 15, 1988). Even though Order 350 considered many of the same factors as did the *Presidential Finding*, its analysis and determinations were made in accordance with the public interest standard of section 3 and must be viewed in terms of compliance with that standard.

the statutes impose no obligation on the DOE either to act or not act.

In sum, the U.S. has removed all regulatory impediments to the private construction and operation of ANGTS. Order 350 in no way conflicts with any U.S. Government commitment to Canada regarding ANGTS. Order 350 does not create any new regulatory impediments to ANGTS and, in fact, takes into account the relevant policy considerations of the ANGTA framework through the exercise of the DOE's authority under section 3 of the NGA.

B. Order 350 Does Not Affect the Status of North Slope Natural Gas.

Intertwined with the arguments that Order 350 is inconsistent with the ANGTA framework are arguments that North Slope natural gas somehow "belongs" to the ANGTS project.¹² The DOE, however, still can find no basis for the various assertions by Alaskan Northwest and Foothills that imply: (1) North Slope natural gas is "committed" to ANGTS; (2) Prudhoe Bay reserves must remain in the ground, forever, if need be, until the ANGTS sponsors are ready to secure financing for the ANGTS; (3) the sponsors of ANGTS have an open-ended right of first refusal of North Slope natural gas; or (4) Congress intended North Slope natural gas exclusively for the domestic market and prohibited its export.

There is no provision in ANGTA or elsewhere to support these assertions.¹³ In fact, Alaskan Northwest and Foothills have cited no express guarantees or commitments with regard to North Slope reserves but rather have pleaded that a special status should be envisioned. The DOE can find no basis whatsoever for this "vision" of Alaskan Northwest and Foothills. Neither can the DOE see any special status that could be reconciled with the acknowledged fact that "producers own [North Slope] reserves and obviously

they have the right to enter into contracts with whomever they please."¹⁴ Moreover, Alaskan Northwest and Foothills have failed to persuade the DOE that the public interest requires a change in the current unencumbered status of North Slope gas by, in effect, imposing an easement on these reserves in favor of ANGTS.¹⁵

In any event, the DOE reiterates that Order 350 does not affect any rights of Alaskan Northwest and Foothills to North Slope natural gas. Prior to the issuance of Order 350, Alaskan Northwest and Foothills were free to contract with the North Slope producers for their gas reserves. Following its issuance, they continue to be free to make such contracts. Order 350 does not (1) restrict the rights of Alaskan Northwest and Foothills to contract for North Slope gas, (2) commit any amount of this gas to Yukon Pacific, or (3) grant Yukon Pacific any right to contract for this gas that it did not have prior to issuance.

C. Order 350 Does Not Represent Either a Taking or a Violation of Substantive Due Process with Respect to ANGTS.

Closely related to the arguments that Order 350 is inconsistent with the framework of ANGTA and that North Slope natural gas belongs to the ANGTS project is the contention that Order 350 constitutes a taking of property and a violation of substantive due process.¹⁶ Alaskan Northwest and Foothills argue that Order 350 was adopted arbitrarily and without proper consideration of their exclusive and perpetual franchise to develop North Slope gas and to deliver this gas to the lower-48 states and thus deprived them of their property rights and legitimate expectations under ANGTA. ANGTA, however, did not grant the sponsors of ANGTS an exclusive and perpetual franchise or any other shield against competition. Accordingly the authorization of a competing project cannot be equated

¹² See Alaskan Northwest's stated errors (1)(c) and (2) in the appendix of this order; see also Foothills' stated errors (1), (2), (3), and (5)(c).

¹³ See Order 350, at pages 38-39, for a discussion of the status of North Slope gas.

¹⁴ *Id.*, note 81, at 39.

¹⁵ For example, Foothills contends that if Order 350 is not rescinded, the DOE should attach a condition to the authorization "which

limits the proposed exports to volumes of Alaskan gas that are demonstrated to be in excess of the proven reserves required to finance and complete the ANGTS. . . ." See Foothills' application for rehearing at 2; see also Alaskan Northwest's application for rehearing, at 6.

¹⁶ See Alaskan Northwest's stated errors (1)(c), (6), and (7) in the appendix of this order; see also Foothills' stated errors (8) and (11).

with either a taking or a violation of substantive due process.¹⁷

ANGTA was primarily a procedural statute intended to minimize regulatory impediments to bringing North Slope gas to the lower-48 states by the early 1980s. To this end, in lieu of the protracted selection process at the Federal Power Commission, ANGTA substituted a mechanism by which the President, with Congressional approval, could designate the sponsors and the route for a transportation system to bring North Slope natural gas to the lower-48 states. ANGTA also eliminated or minimized certain statutory or regulatory requirements that the persons selected to build and operate the system would otherwise encounter before commencing construction. ANGTA did not provide the sponsors of the approved system with a monopoly franchise that prohibits development of North Slope natural gas until they decide the time is right to get their project underway. Nor did it bar competing developers of North Slope gas from securing the necessary governmental authorizations through the standard permit process without the advantages granted the sponsors of ANGTS.

In sum, ANGTA was intended to expedite development of North Slope natural gas, not to lock up this vast energy resource. ANGTA cleared the administrative path for obtaining the necessary federal permits and authorizations; it did not interdict marketplace competition over North Slope gas. Alaskan Northwest and Foothills have no property right or legitimate expectation on which to challenge Order 350 merely because it authorizes a competing project. The DOE crafted Order 350 so that it does not interfere with any of the statutory privileges granted Alaskan Northwest and Foothills by ANGTA. If these privileges have been diminished in value over time, it is not the result of any action or inaction by the U.S. Government.

¹⁷ See Order 350, at 39.

¹⁸ See Alaskan Northwest's stated errors (3)(a), (3)(b), (3)(c), (3)(d), and (5) in the appendix of this order; see also Foothills' stated errors (5)(a), (5)(b), (5)(c), (5)(d), (5)(e), (5)(f), (5)(g), and (6).

¹⁹ See Order 350 for a discussion of DOE's findings concerning the public interest, at

D. Order 350 Is Based on Evidence in the Record That the Export Project Is Not Inconsistent with the Public Interest, Including, the Environmental and Domestic Need Aspects of the Public Interest.

In addition to their arguments concerning the effects of Order 350 on ANGTS, Alaskan Northwest and Foothills contend that Order 350 is not consistent with the public interest and, in particular, that it misjudges the effects of the export project on the environment and the domestic need aspects of the public interests.¹⁸ They have failed to provide, however, any additional evidence that undermines either the substantial evidence in the record or the statutory presumption that supports the public interest finding in Order 350.¹⁹

As part of its public interest determination, the DOE weighed the effects of the export project on the environment. Order 350 took into account the Final Environmental Impact Statement (FEIS)²⁰ on the export project and other environmental considerations such as the implications of the accident involving the oil tanker Exxon Valdez that occurred off Alaska after the FEIS was issued. Order 350 found that the environmental effects of the export project "are relatively minor and can be mitigated, and thus are environmentally acceptable, especially when balanced against the substantial economic benefits to be derived from the project." Order 350 requires the export project to "be implemented in accordance with all applicable environmental procedures and requirements" and to "comply with all preventive and mitigative measures imposed by Federal and State agencies to protect the public health, safety and environment." In conjunction with the issuance of Order 350, the DOE issued a *Record of Decision* pursuant to the regulations of the Council on Environmental Quality (40 CFR 1505.2) and the DOE's guidelines for compliance with the National Environmental Policy Act of

pages 18-30 (domestic need), 31 (American consumers), 31-32 (efficient energy production), 32 (State of Alaska), 33-35 (international effects), and 35-38 (environment).

²⁰ *Trans-Alaska Gas System Final Environmental Impact Statement* (FEIS BLM-AK-PT-88-003-1792-910, June 1988) DOE/EIS-0139.

1969 (NEPA) which documents the manner in which DOE considered the environmental issues in its decision-making process.²¹

The DOE's public interest determination focused on domestic need for North Slope gas. In assessing domestic need, Order 350 did not conclude North Slope natural gas could not or would not be used in the domestic market. Rather, it found there exist large reserves of natural gas in North America within or below the reasonably anticipated cost range of North Slope natural gas that are more than sufficient to meet anticipated domestic need without any significant market distortions, even if North Slope natural gas does not flow to the lower-48 states during the term of the proposed exports. Thus, North Slope natural gas is not needed to meet anticipated domestic demand.

The crux of Alaskan Northwest's and Foothills' domestic need argument is the reliability of resource base estimates for projecting long-term domestic supply. Foothills state that the authorization was "based on a reckless wager that so-called 'potential' reserves will eventually be forthcoming and, if not, the deficiency can always be made up by foreign imports."²² As demonstrated in Order 350, any projection of long-term supply must incorporate the addition of reserves in the future.²³ Not recognizing this potential would be to ignore decades of historical record in which reserve addi-

tions have occurred year after year. There is nothing to suggest that this process will suddenly terminate in the near future. In addition, any decision based on the current stock of reserves alone would be distorted, if not outright absurd, since it necessarily would have to assume the U.S. will run out of natural gas before the end of the century.

The DOE believes that the gas resource base estimates for the U.S. published by the Potential Gas Committee,²⁴ the U.S. Geological Survey, and DOE/Argonne National Laboratories (DOE/Argonne) that were considered in the decision to grant the export application are credible.²⁵ They reflect the consensus in the energy community that additional gas resources beyond proved reserves can be discovered and produced with foreseeable technology and economic conditions.

Alaskan Northwest maintains that North Slope gas is needed domestically because supplies in the lower-48 states costing less than \$3.00 per Mcf wellhead price in 1987 dollars plus potential Canadian pipeline gas and LNG imports are insufficient to meet the DOE's postulated demand of 725 quads through 2021.²⁶ Alaskan Northwest implies that DOE should not consider as an additional source of gas supply the 174 Tcf in the lower-48 states which the DOE/Argonne estimate indicates would be recoverable in a wellhead price range of \$3.00 to

²¹ 54 FR 49337 (November 30, 1989). Alaskan Northwest and Foothills argue that the DOE did not comply with NEPA in issuing Order 350. A section 3 rehearing, however, is not the proper forum to consider compliance with the NEPA process. A section 3 rehearing reviews DOE's public interest determination, including the extent to which the determination took into account the environmental aspects of the public interest. In Order 350, consideration of the environmental aspects of the public interest resulted in the inclusion of several environmental conditions. A section 3 rehearing does not review procedural compliance with NEPA. The DOE's compliance with the NEPA process is set forth in the *Record of Decision* which represents final agency action on NEPA procedural matters. There is no provision for an administrative review (such as a section 3 rehearing) of a record of decision. See 40 CFR Parts 1500-1508.

²² See Foothills' application for rehearing, at 11.

²³ See Order 350, at pages 22-24, for a full discussion of reserves.

²⁴ The Potential Gas Committee is made up of a group of volunteer industry and governmental experts in the area of natural gas supply.

²⁵ The DOE notes that the resource amounts of all three appraisals are significantly less than a more recent report in late 1989 (on which Order 350 did not rely) from the American Association of Petroleum Geologists (AAPG). The AAPG report, "New Approaches to Gas Resource Evaluation," indicates the gas resource base in the lower-48 states is 869 Tcf at \$3.00/Mcf or less and 1,399 Tcf assuming \$5.00/Mcf. By comparison, the 1988 DOE/Argonne study estimated that 757 Tcf is recoverable at \$5.00/Mcf or less, of which 583 Tcf is recoverable under \$3.00/Mcf. See AAPG *Explorer*, September 1989, at 9.

²⁶ See appendix attached to Alaskan Northwest's application for rehearing, at 24.

\$5.00 per Mcf (1987 dollars).²⁷ In effect, Alaskan Northwest asserts that North Slope gas must be considered "needed" because of its prediction that the ANGTS can deliver gas to the U.S./Canada border at a price of \$3.00 per Mcf (1987 dollars), the sum of the wellhead price at which producers will produce and sell their gas (\$0.54)²⁸ and the cost of service estimate for pipeline transportation (\$2.46) to the border.²⁹ This argument is flawed in two significant aspects.

First, this argument reduces the need analysis to predictions about the future prices of various gas supplies. The DOE does not believe need can be determined simply by comparing predicted prices, even if gas prices could be predicted precisely ten to 20 years into the future. The need analysis is primarily an assessment of whether sufficient supplies can reasonably be expected to be available to meet anticipated demand. Of course, this assessment must take into account that the costs of bringing some supplies to

market may be so significantly higher than the anticipated market price that their use would be precluded in an efficient market. Alaskan Northwest and Foothills, however, have failed to demonstrate that the costs of any of the supplies considered by the DOE in Order 350, including gas producible at \$3.00-\$5.00 per Mcf in much more accessible areas than the North Slope, would be so high that they may not reasonably be considered available to meet anticipated demand during the term of the proposed export.

Second, assuming *arguendo* that need for a particular supply were determined solely by comparing predicted prices, Alaskan Northwest and Foothills have not provided credible evidence to permit such a comparison in this case. The price of \$3.00 per Mcf that they assert that North Slope gas delivered by ANGTS would cost at the U.S./Canada border is mere speculation since it is based on a North Slope

²⁷ *An Assessment of the Natural Gas Resource Base of the United States* (May 1988), prepared by Argonne National Laboratory for the DOE's Office of Policy, Planning, and Analysis.

²⁸ The \$0.54 figure appeared in a study by Dames & Moore and Decision Focus, Inc., included as Exhibit R to "Initial Comments" filed by Yukon Pacific on August 24, 1988. It was subsequently adopted by the ANGTS sponsors without any further explanation other than its use by Yukon Pacific. The Dames & Moore study did not say how it arrived at this figure.

²⁹ Alaskan Northwest asserts that the cost of transporting North Slope gas from the U.S./Canada border to Chicago and California would be \$0.50/Mcf. At the same time, it suggests that the costs of transporting lower-48 supplies from the wellhead to the city gate would be \$1.20. (See Alaskan Northwest's application for rehearing, appendix, at 20). Alaskan Northwest posits the \$1.20 figure by subtracting average domestic wellhead prices from average city gate prices. (See Energy Information Administration, *Monthly Energy Review*, July 1989, Table 9.11, at 109). The DOE believes this comparison is not appropriate and is misleading.

The DOE has looked at the current cost of delivering Canadian gas to Illinois and California by means of the Eastern and Western Legs of the prebuild (their present termini are in Iowa and Oregon) and the cost of delivering gas from traditional lower-48 sources. The data was derived from the Dun and Bradstreet "Official Pipeline Guide", a computerized

information system for determining least-cost point-to-point U.S. pipeline transportation charges. The results show that in February 1990 gas could be delivered from the Saskatchewan/Montana border via the Eastern Leg prebuild and certain interconnecting pipelines to central Illinois (Tuscola) for \$1.03/Mcf. It cost \$0.60/Mcf to transport gas from the British Columbia/Idaho border via the Western Delivery System (which comprises the Western Leg prebuild) to the Arizona/California border. Much of the supply for California originates in Texas and New Mexico and production in Oklahoma and Louisiana is shipped to Illinois. Gas could be transported from west Texas and New Mexico to the southern California border for \$0.27/Mcf. To transport gas from Oklahoma and south Louisiana to Tuscola would cost \$0.62 and \$0.46/Mcf, respectively.

In light of the current situation, it is reasonable to assume that there would be comparable transportation costs within the lower-48 states for North Slope gas and alternative supplies. In addition, with the advent of open-access transportation, domestic pipelines will continually be under pressure to keep prices competitive to attract customers. Furthermore, California would be able to acquire supplies from new production regions of the Rocky Mountains through the proposed pipelines of Wyoming-California Pipeline Company and Kern River Gas Transmission Company between Wyoming and California that received final FERC certificates early this year and are expected to begin operation in 1991 with transmission costs of \$0.64 and \$0.99, respectively.

wellhead price of \$0.54 per Mcf.³⁰ Alaskan Northwest offers no reason in its application for rehearing to persuade the DOE that North Slope producers consider \$0.54 a sufficient price to recover fully their costs. In fact, Alaskan Northwest admits:

One can only speculate about actual wellhead prices, as they will be determined through negotiations between individual producers and purchasers of North Slope gas. . . . [T]he wellhead price of \$0.54 (1987 dollars) . . . may be inaccurate.³¹

In addition, Alaskan Northwest and Foothills also argue that the presence of North Slope gas in various natural gas studies, including those of the Gas Research Institute, Data Research Institute/McGraw-Hill, and the American Gas Association (AGA), constitutes convincing evidence of the need for this gas in the lower-48 states.³² For example, Foothills' application for rehearing states, "AGA concludes that 'Alaskan gas becomes available before 2000 with the construction of a pipeline system to deliver those supplies.' (Emphasis added)." ³³

The DOE did consider these studies but did not find them convincing concerning domestic need for North Slope gas.³⁴ They do not conclude that this gas is needed. At most, they conclude that this gas would be available to the domestic market if the ANGTS is built. Such a conclusion necessarily flows from the standard approach used for models involving North Slope gas. Forecasters program this gas supply into the models because they assume that ANGTS will be built and therefore that North Slope gas necessarily will flow through it some day to the lower-48 states. The consumption of North Slope gas in the lower-48 states is, in effect, a foregone conclusion of these models and the only variable is the completion date of

the ANGTS. As such, they reflect an assumption, and the possibility that it may be more efficient not to use North Slope gas in the domestic market is ignored. The DOE does not find the circular reasoning that relies on such studies to be enlightening when examining the domestic need for North Slope gas.

To summarize, Alaskan Northwest and Foothills have presented no new evidence or arguments that persuade the DOE to reconsider its determination that the export of North Slope gas is not inconsistent with the public interest. With respect to the environment, they provide no substantive basis to change the measures in Order 350 to protect the environment. With respect to domestic need, they give no compelling reason demonstrating that the analysis or conclusions in Order 350 were in error. Rather, they seek to confuse the possibility that North Slope gas may be consumed in the lower-48 states with a conclusion that North Slope gas is needed. The DOE's assessment was based on the outlook for natural gas demand, the outlook for supply, the availability of energy supplies with comparable or lower costs than North Slope gas, and the likelihood that the absence of North Slope gas would result in significant distortions in the U.S. energy market. As a result of this assessment, Order 350 concluded that North Slope gas is not needed in the lower-48 states during the 25-year term of Yukon Pacific's proposed export.

E. Order 350 Was Adopted in Accordance with All Applicable Statutory, Regulatory, and Procedural Due Process Requirements.

Throughout this proceeding, Alaskan Northwest and Foothills have contended that certain statutory, regulatory, and procedural due process requirements were not followed.³⁵ The DOE does not agree.

³⁰ For purposes of argument, the DOE is not questioning the transportation component of the \$3.00 price. However, the cost of service projected by the ANGTS sponsors from Alaska through Canada to the U.S. border of \$2.46, which is based on a June 1988 revised capital cost estimate for the remaining, unconstructed elements of ANGTS, has not been examined, much less approved, by any regulatory body.

³¹ See Alaskan Northwest's application for rehearing, at 19 and 23.

³² See Appendixes D-G attached to Foothills' application for rehearing.

³³ *Id.*, at 39.

³⁴ See Order 350, at 18-20, particularly note 36.

³⁵ See Alaskan Northwest's stated errors (7) and (8) in the appendix of this order; see also Foothills' stated errors (4), (6), (9), (10), and (11).

The DOE considered Yukon Pacific's application to export North Slope gas in accordance with all applicable statutory, regulatory, and procedural requirements. In particular, all parties were given the opportunity to submit written comments and reply comments and to participate in a public conference in Anchorage, Alaska. All parties were given ample opportunity to present arguments and data to support their positions and to examine thoroughly the positions of the other parties. Additional procedures were not and are not now necessary to develop more fully any disputed relevant and material factual issue.

Alaskan Northwest and Foothills have not demonstrated that any material issues of fact are genuinely in dispute or that any additional action, including a trial-type hearing, is necessary for a full and true disclosure of the facts. Alaskan Northwest and Foothills are not entitled as a matter of right to a trial-type hearing concerning policy or legal issues.

At every stage of this proceeding, the DOE has acted in accordance with all applicable statutory, regulatory, and procedural requirements. There exists a fully developed record, compiled with due regard for the rights of all parties, on which the DOE made a reasoned decision in Order 350.³⁶

F. Order 350 Does Not Restrict Improperly the Authority of Either FERC or OFI.

Alaskan Northwest and Foothills argue that Order 350 improperly limits the authority of the FERC and OFI.³⁷ There is no basis for this allegation.

With respect to the FERC, the DOE Act explicitly grants the Secretary of Energy all authority conferred under the NGA over imported and exported natural

gas. While the Secretary has retained the policy-making aspects of this authority within the DOE, certain technical aspects of this authority, especially in the areas where imported and exported natural gas mix with interstate gas, have been delegated to the FERC. The delegation of authority to the FERC is clear that this delegated authority over imported and exported natural gas must be exercised in accordance with the DOE's policies and any specific conditions in the DOE's import and export authorizations.³⁸

Order 350 limits the FERC's jurisdiction over this export project so that it would not exercise unnecessary regulation over the entire project merely because gas molecules destined for foreign countries may be combined with "interstate gas molecules" from ANGTS destined for lower-48 markets. Order 350 does not create any regulatory gap concerning the project and preserves the FERC's authority to regulate shared facilities where it has a legitimate interstate commerce interest. It also preserves the FERC's authority over the export site. By ruling out, on environmental grounds, all export sites except Valdez, Order 350 was exercising the site veto function retained within DOE. Order 350 does not affect the FERC's authority to approve or disapprove the Valdez export site.³⁹

With respect to OFI, Reorganization Plan No. 1 of 1987 explicitly provides that the Federal Inspector shall follow the policies of the agency from which the enforcement function the Inspector is exercising has been transferred. Order 350 sets forth DOE's policy that the "ANGTA condition" not be used as a dilatory tactic to impede the export project. Requiring this condition to be enforced expeditiously and on the basis of facts rather than speculation does not abridge the authority of the

³⁶ See Order 350, at 9-11.

³⁷ See Alaskan Northwest's stated error (4) specified in the appendix of this order; see also Foothills' stated error (7).

³⁸ See Order 350 note 18, at 7, note 32, at 16, note 34, at 17, and note 79, at 37. These footnotes detail (1) how the DOE Act granted the Secretary of Energy exclusive jurisdiction to regulate natural gas imports and exports, (2) how DOE Delegation Order No. 0204-127 delegates this broad grant of regulatory authority to the Assistant Secretary for Fossil Energy, (3) how DOE Delegation Order No. 0204-112 delegates the FERC limited authority under

sections 4, 5, and 7 of the NGA to regulate natural gas imports and exports in interstate commerce, subject to the policies of the DOE and any conditions in DOE import and export authorizations, and (4) how DOE Delegation Order No. 0204-112 delegates the FERC limited authority under section 3 of the NGA to regulate export and import sites, subject to the policies of the DOE, any conditions in DOE import and export authorizations, and the veto by the DOE of a particular site. See also *Trans-Canada Pipelines v. FERC*, No. 87-1229, June 16, 1989.

³⁹ See Order 350, at 41-44.

Federal Inspector to carry out the functions of the office.⁴⁰

G. Conclusion

The DOE issued Order 350 after a thorough examination of whether exports of North Slope gas would be inconsistent with the public interest. The DOE found that there are sufficient supplies of natural gas available in North America and elsewhere to meet anticipated domestic demand without market distortion if North Slope gas is exported. The DOE also found that the export of North Slope gas would be consistent with other public interest considerations, including protection of the environment.

The applications for rehearing filed by Alaskan Northwest and Foothills did not contain any basis for the DOE to reconsider its findings in Order 350. Alaskan Northwest and Foothills neither refuted the substantial record evidence on which these findings were based nor carried their burden concerning the statutory presumption in section 3 of the NGA that natural gas exports are consistent with the public interest.

Alaskan Northwest and Foothills sought in their applications for rehearing, as they have throughout this proceeding, to infer that this export application was different than other section 3 proceedings. Many of their arguments assert that the ANGTA framework, in effect, reverses the presumption favoring natural gas exports and creates different standards for evaluating exports of North Slope gas. Although the DOE can find no legal basis for such a proposition, it did consider the policy basis of the ANGTA framework in the context of the public interest standard of section 3 of the NGA. This consideration led the DOE to include the "ANGTA condition" in Order 350 to preserve the physical integrity of ANGTS. The DOE crafted Order 350 carefully to ensure that it did not interfere with any of the privileges of the ANGTS sponsors or their ability to negotiate contracts to secure North Slope reserves for ANGTS. Alaskan Northwest and Foothills, however, have not persuaded the DOE that either the public interest or any provision of the ANGTA framework requires it to interdict competition over North Slope gas.

Order 350 does not dictate how North Slope gas will be developed. Those decisions continue to be left to private parties. Order 350 merely complies with the DOE's obligation to authorize natural gas exports where there is no showing such exports would be inconsistent with the public interest. There is no provision in the ANGTA framework or elsewhere that changes this obligation in situations involving competition over North Slope gas.

III. Request for Clarification

On December 15, 1989, Yukon Pacific requested clarification or, in the alternative, rehearing of Order 350. Yukon Pacific asks the DOE to clarify that, in the event the quantity of LNG exported in a given year is below the annual volume limitation, it is authorized to increase exports in succeeding years to make up the deficiency. Yukon Pacific asserts that this would enhance its ability to develop and initiate long-term sales arrangements and would provide latitude should actual deliveries in some years prove to be smaller than anticipated.

The DOE's imposition of the 14 million metric ton (MMT) annual export ceiling was based on the perceived intention of Yukon Pacific to deliver only up to that volume and is reflective of Yukon Pacific's application. However, it is reasonable that Yukon Pacific be permitted to increase the quantity of LNG exported in succeeding years until it makes up any deficiency in a year in which deliveries did not equal 14 MMT, as long as the aggregate amount during the term of the authorization does not exceed 350 MMT.⁴¹ Accordingly, we are modifying Ordering Paragraph A of Order 350 in a manner that will give Yukon Pacific more flexibility to structure contracts tailored to the individual needs of its customers and to manage deliverability fluctuations.

IV. Decision

The applications for rehearing filed by Alaskan Northwest and Foothills present no information that would merit reconsideration of our findings in Order 350. Accordingly, their requests for rehearing are denied.

⁴⁰ *Id.*, note 83, at 41.

⁴¹ 14 MMT × 25 years = 350 MMT.

The application for clarification filed by Yukon Pacific involves a reasonable modification of the authority in Order 350 that does not affect the DOE's decision to grant the authorization. Accordingly, its request is granted.

ORDER

For the reasons set forth above, pursuant to section 3 and 19 of the Natural Gas Act, it is ordered that:

A. Ordering Paragraph A of DOE/FE Opinion and Order No. 350 (Order 350) issued November 16, 1989, to Yukon Pacific Corporation is hereby modified to read as follows:

A. Yukon Pacific Corporation (Yukon Pacific) is authorized to export for sale to Japan, South Korea, and Taiwan a total of up to 350 million metric tons (MMT) of liquefied natural gas (LNG), at an average annual volume of 14 MMT, for a period of 25 years beginning on the date of the first delivery, upon the conditions herein set forth.

B. All other terms and conditions of Order 350 remain in effect.

C. The application for rehearing of Order No. 350 filed by Alaskan Northwest Natural Gas Transportation Company and Foothills Pipe Lines (Yukon) Ltd. are denied.

Issued in Washington, D.C., on March 8, 1990.

Appendix

List of Errors in DOE/FE Opinion and Order No. 350 Alleged by Alaskan Northwest Natural Gas Transportation Company and Foothills Pipe Lines (Yukon) Ltd.

A. Alaskan Northwest *

(1) DOE's conditional export authorization, by failing to attach protective conditions to ensure compliance with ANGTA, represents an impermissible extension of DOE's statutory authority and, accordingly constitutes legal error in the following respects:

(a) DOE's Order threatens to " . . . compel a change in the basic nature . . . of the approved transportation system or would otherwise prevent or impair in

any significant respect the expeditious construction and initial operation" of the ANGTS and, accordingly, fails to comply with the mandate of section 9 of ANGTA;

(b) DOE's Order authorizes the diminution of the total quantity and quality of energy resources available to the U.S. on a price-competitive basis, in contravention of the mandate of section 12 of ANGTA;

(c) DOE's Order, with respect to its findings of possible future delivery of TAGS export volumes to American consumers, contravenes the exclusive right of the ANGTS to deliver North Slope gas to lower-48 states' consumers.

(2) DOE's Order contravenes the President's September 22, 1977, decision concerning ANGTS and prior U.S.-Canadian commitments.

(3) DOE's findings relevant to the analysis of "public interest" under section 3 of the NGA are (i) not supported by substantial evidence; and/or (ii) represent an abuse of agency discretion. In particular:

(a) DOE's findings respecting "domestic need" are not supported (and are, in fact, undermined) by record evidence;

(b) Insufficient record evidence has been developed to support claimed trade and other international benefits;

(c) DOE's findings with respect to impacts on national energy security, and the equating of national energy security to "global market efficiency" are not supported by record evidence and represent an abuse of discretion; and

(d) DOE's findings respecting environmental impact are incomplete and otherwise not supported by record evidence.

(4) DOE's limitation of Federal Energy Regulatory Commission (FERC) jurisdiction over the Alaskan Gas Conditioning Facility constitutes legal error.

(5) DOE has abrogated its statutory responsibilities under the National Environmental Policy Act (NEPA) by failing to consider environmental consequences associated with, *inter alia*, with: (1) gas

* See Alaskan Northwest's application for rehearing at 7-10.

conditioning arrangements for volumes proposed to be exported and (2) marine transportation hazards and interactions of LNG and oil tankers at Port Valdez and in transit through Prince William Sound.

(6) The issuance of export authorization to Yukon Pacific, in the absence of protective conditions urged by Alaskan Northwest, deprives the ANGTS sponsors of legal rights and priorities established through prior Congressional, regulatory and Presidential orders, the deprivation of which constitutes an unlawful taking under the Fifth Amendment of the U.S. Constitution.

(7) DOE's Order was issued without regard to requirements of procedural and substantive due process.

(8) DOE's failure to attach informational and filing requirements to mitigate potential regulatory gaps in arbitrary, capricious, and an abuse of discretion.

B. Foothills **

(1) DOE erred in finding that approval of the proposed export is consistent with the intent, policies, and framework of ANGTA.

(2) DOE erred in failing to recognize that approval of the proposed export is inconsistent with the Presidential and Congressional decisions approving the ANGTS under ANGTA.

(3) DOE erred in finding that approval of the proposed export is inconsistent with the 1977 U.S.-Canadian agreement on principles and other commitments made by the U.S. to Canada in connection with the ANGTS.

(4) DOE erred in finding that there is a statutory presumption favoring exports of Alaskan North Slope gas.

(5) DOE's approval of the proposed export is arbitrary, capricious, abusive of the government's discretion, and unsupported by either rational findings or substantial evidence of record.

(a) DOE erred in failing to take a hard look at all pertinent issues and to make rational findings with respect to those issues.

(b) DOE erred in approving the proposed export prior to completion and full consideration of the National Energy Strategy.

(c) DOE erred in finding that approval of the proposed export will not significantly impair the expeditious construction and operation of the ANGTS.

(d) DOE erred in finding that North Slope gas will not be needed during the term of the proposed export to provide American consumers with adequate gas supplies at reasonable prices.

(e) DOE erred in finding that the proposed export will not diminish U.S. energy security or otherwise adversely affect the quantity, quality, or price of energy available to American consumers.

(f) DOE erred in finding that approval of the proposed export would benefit American consumers, encourage increased energy production, create benefits for the State of Alaska that would not otherwise be available, and benefit international relations.

(g) DOE erred in finding that the proposed export project is environmentally acceptable.

(6) DOE erred in failing to comply with NEPA and the regulations thereunder.

(7) DOE exceeded its statutory authority in attempting to limit the FERC's jurisdiction over the TAGS project in the event TAGS and the ANGTS share a facility that is subject to the FERC's interstate commerce jurisdiction.

(8) DOE's approval of the proposed export constitutes an unlawful taking of property rights of the ANGTS sponsors.

(9) DOE erred in failing to enforce and follow its own regulations on exports of natural gas.

(10) DOE erred in failing to convene a trial-type hearing.

(11) DOE unlawfully deprived the ANGTS sponsors of procedural and substantive due process.

** See Foothill's application for rehearing at 13-14.

APPENDIX G-9

DOE/FE Opinion & Order No. 350-A
“Order Denying Rehearing Requests &
Modifying Prior Order for
Purposes of Clarification”
1 FE ¶70,303 (3-8-1990)

¶ 70,303

Yukon Pacific Corporation (ERA Docket No. 87-68-LNG), March 8, 1990.

DOE/FE Opinion and Order No. 350-A

Order Denying Requests for Rehearing and Modifying Prior Order for Purpose of Clarification

I. Background

On November 16, 1989, the Office of Fossil Energy (FE) of the Department of Energy (DOE) issued DOE/FE Opinion and Order No. 350 (Order 350).¹ Order 350 granted Yukon Pacific Corporation (Yukon Pacific) authorization under section 3 of the Natural Gas Act (NGA) to export natural gas produced in the North Slope region of Alaska to the Pacific Rim countries of Japan, South Korea, and Taiwan. Yukon Pacific plans to build the Trans-Alaska Gas System (TAGS) to deliver gas from Prudhoe Bay to Port Valdez on Alaska's southern coast, where it would be converted to liquefied natural gas (LNG) and shipped by tanker to

Pacific Rim customers. On December 15, 1989, Alaskan Northwest Natural Gas Transportation Company (Alaskan Northwest) and Foothills Pipe Lines (Yukon) Ltd. (Foothills), sponsors of a competing private commercial project, the Alaska Natural Gas Transportation System (ANGTS),² filed individual applications for rehearing of Order 350. On the same date, Yukon Pacific filed a request for clarification.

II. Requests for Rehearing

Alaskan Northwest and Foothills specified numerous alleged errors in the DOE's decision. A list of these alleged errors is contained in the appendix of this order.

¹ 1 FE ¶ 70,259.

² ANGTS is a project to deliver North Slope natural gas to markets in the lower-48 states

by means of a pipeline across Alaska and Canada.

Their applications restate arguments the ANGTS sponsors urged previously in this proceeding and do not provide any new relevant and material information. Their principal arguments may be summarized as follows: (A) Order 350 is inconsistent with the Alaska Natural Gas Transportation Act (ANGTA),³ the 1977 bilateral agreement between the U.S. and Canada relating to the ANGTS,⁴ and the measures taken to implement these documents (hereafter collectively referred to as the ANGTA framework); (B) Order 350 improperly permits Yukon Pacific to compete for North Slope natural gas reserves that "belong" to the ANGTS project; (C) Order 350 represents a taking of property and violation of substantive due process with respect to Alaskan Northwest's and Foothills' "franchise" to bring North Slope gas to the lower-48 states; (D) the export of North Slope gas is not consistent with the public interest; (E) the DOE did not comply with statutory, regulatory, and procedural due process requirements in issuing Order 350; and (F) Order 350 improperly restricts the regulatory authority of the Federal Energy Regulatory Commission (FERC) and the Office of Federal Inspector (OFI) for the ANGTS.

The DOE has considered carefully all of the arguments made by Alaskan Northwest and Foothills and is not persuaded to change Order 350. Their applications for rehearing fail to overcome either the general presumption favoring export authorizations mandated by section 3 of the NGA or the substantial evidence in the record of this proceeding that exports of North Slope gas would be consistent with the public interest. Therefore, the applications for rehearing are

denied in their entirety. In the following paragraphs, the DOE sets forth its views on the principal arguments of Alaskan Northwest and Foothills.

A. Order 350 is Consistent with the ANGTA Framework and Provides Explicit Protection for ANGTS.

Many of Alaskan Northwest's and Foothills' arguments flow from the contention that the ANGTA framework requires that any project competing with ANGTS be rejected or at least severely restricted.⁵ Prior to the issuance of Order 350, the DOE considered these arguments and found them unpersuasive. The ANGTA framework cleared the administrative path for the construction and operation of ANGTS. It did not guarantee financing for ANGTS or block competition for the development of North Slope natural gas.⁶

The U.S. Government has taken all actions necessary to implement the ANGTA framework. Nothing in Order 350 affects these actions. All the special statutory and regulatory treatment for ANGTS remains intact, ready to be used whenever the sponsors decide, after years in abeyance, to resume its construction.

With respect to the assurances to Canada concerning ANGTS, the DOE again rejects the assertions by Alaskan Northwest and Foothills that authorizing exports of North Slope gas is inconsistent with this aspect of the ANGTA framework. Order 350 stated:

The U.S. Government has complied fully with its commitment to ANGTS by removing all regulatory impediments to the completion and operation of ANGTS by private parties [and] ...

³ 15 U.S.C. 719 *et seq.*

⁴ *Agreement Between the United States of America and Canada on Principles Applicable to a Northern Natural Gas Pipeline*, September 20, 1977, U.S.T. 3581, T.I.A.S. 9030.

⁵ See Alaskan Northwest's stated errors (1)(a), (1)(b), (1)(c), (2), and (6) listed in the appendix of this order; see also Foothills' stated errors (1), (2), (3), and (5)(c). The DOE notes that while Alaskan Northwest and Foothills argue the ANGTA framework somehow imposes additional or different legal requirements on the DOE when it considers the export of North Slope gas, they also take the position "that judicial review of [Order 350] must occur under Section 19 of the Natural Gas Act ... rather than under section 10 of ANGTA." See

Protective Complaint Under the Alaska Natural Gas Transportation Act Challenging Order of the Department of Energy Office of Fossil Energy filed by Foothills with the U.S. Court of Appeals for the District of Columbia on January 12, 1990. They cannot have it both ways. Since it is clear claims under ANGTA must be litigated under section 10, Alaskan Northwest and Foothills would be in an untenable position if they urged jurisdiction under section 19 of the NGA and also alleged that DOE violated ANGTA.

⁶ See Order 350, at pages 38-41, for a full description of the ANGTA framework; see also DOE's procedural order issued in this docket on July 25, 1988, at 19-22.

has assured Canada that it will not erect new regulatory barriers to the completion of ANGTS by private parties.⁷

Order 350 does not conflict with the continuation of this commitment in any way. Mr. Richard T. McCormack, Undersecretary of State for Economic Affairs responded to Canada's concerns about Order 350 in a letter to Mr. Derek H. Burney, the Canadian Ambassador to the U.S.⁸ He said:

The United States Government has fulfilled, and continues to fulfill, its commitments to ANGTS . . . [W]e believe it would be inconsistent with market principles if we were to impose regulatory restrictions on private sector projects while advocating a private sector solution for ANGTS. Put another way, if we refused to grant the approvals [to TAGS] we would, in effect, be putting ourselves in the position of allocating gas among projects which, apart from its inconsistency with the principle of market-determined resource allocation, ignores the fact that this gas is owned by private firms and not the U.S. Government.

⁷ See Order 350, at 33-34.

⁸ Mr. McCormack forwarded this letter of January 29, 1990, to the DOE (and a letter from Ambassador Burney to him dated December 20, 1989) for inclusion in the record of this case. We have done so. In addition, W. Henson Moore, the Deputy Secretary of Energy, received a letter dated December 28, 1989, from Ambassador Burney expressing Canada's concerns about Order 350 and, in particular, its effect on the commercial viability of ANGTS. Ambassador Burney enclosed a copy of his letter to Mr. McCormack. The DOE placed in the record the Ambassador's letter to Mr. Moore and the Deputy Secretary's reply dated January 30, 1990.

On January 5, 1990, Alaskan Northwest and Foothills filed a joint motion for the DOE to lodge in the record the December 20, 1989, letter from Ambassador Burney to Mr. McCormack. This motion is moot because the letter already has been placed in the record.

⁹ Order 350 defined the export project to include the pipeline and all appurtenant facilities, including production facilities, gas conditioning facilities, liquefaction plant, marine terminal, and LNG tankers.

¹⁰ Although the "ANGTA condition" repeats the language of section 9 of ANGTA, it is neither duplicative of nor mandated by the ANGTA framework since section 9 only applies to authorizations for the construction and ini-

Moreover, Order 350 invokes the Department's plenary authority under section 3 of the NGA to include the "ANGTA condition." This condition prohibits explicitly any action in connection with the export project⁹ "that would compel a change in the basic nature and general route of [ANGTS] or otherwise prevent or impair in any significant respect the expeditious construction and initial operation of ANGTS."¹⁰ The DOE adopted this condition because it determined the public interest would be served by protecting the physical integrity of ANGTS. Even though the policy considerations that led the DOE to adopt this condition overlap, to some extent, those which support the ANGTA framework, neither the condition nor any other action under Order 350 was taken because of, or in violation of, some requirement or limitation in ANGTA.¹¹ Adoption of the "ANGTA condition" resulted from the same process by which the DOE ordinarily considers the policies that underlie various statutory frameworks, such as the antitrust laws, to the extent they are relevant to the public interest in a particular import or export application, even though

tial operation of ANGTS. Section 9 is a statutory privilege granted the ANGTS sponsors to prevent government agencies from granting or modifying authorizations for the ANGTS in a manner that would hinder its expeditious construction and operation. Section 9 does not apply to authorizations for projects other than ANGTS.

¹¹ The applications for rehearing filed by Alaskan Northwest and Foothills continue their efforts to modify this NGA section 3 proceeding by reading in requirements from ANGTA. ANGTA, however, did not change the existing process or requirements under section 3 of the NGA for authorization to export natural gas. It only added the requirement for North Slope gas that the President must find its export "will not diminish the total quantity or quality nor increase the total price of energy available to the United States." The decision whether to authorize exports of North Slope gas under section 3 is made independently of the *Presidential Finding Concerning Alaskan Natural Gas* issued on January 12, 1988 (53 FR 999, January 15, 1988). Even though Order 350 considered many of the same factors as did the *Presidential Finding*, its analysis and determinations were made in accordance with the public interest standard of section 3 and must be viewed in terms of compliance with that standard.

the statutes impose no obligation on the DOE either to act or not act.

In sum, the U.S. has removed all regulatory impediments to the private construction and operation of ANGTS. Order 350 in no way conflicts with any U.S. Government commitment to Canada regarding ANGTS. Order 350 does not create any new regulatory impediments to ANGTS and, in fact, takes into account the relevant policy considerations of the ANGTA framework through the exercise of the DOE's authority under section 3 of the NGA.

B. Order 350 Does Not Affect the Status of North Slope Natural Gas.

Intertwined with the arguments that Order 350 is inconsistent with the ANGTA framework are arguments that North Slope natural gas somehow "belongs" to the ANGTS project.¹² The DOE, however, still can find no basis for the various assertions by Alaskan Northwest and Foothills that imply: (1) North Slope natural gas is "committed" to ANGTS; (2) Prudhoe Bay reserves must remain in the ground, forever, if need be, until the ANGTS sponsors are ready to secure financing for the ANGTS; (3) the sponsors of ANGTS have an open-ended right of first refusal of North Slope natural gas; or (4) Congress intended North Slope natural gas exclusively for the domestic market and prohibited its export.

There is no provision in ANGTA or elsewhere to support these assertions.¹³ In fact, Alaskan Northwest and Foothills have cited no express guarantees or commitments with regard to North Slope reserves but rather have pleaded that a special status should be envisioned. The DOE can find no basis whatsoever for this "vision" of Alaskan Northwest and Foothills. Neither can the DOE see any special status that could be reconciled with the acknowledged fact that "producers own [North Slope] reserves and obviously

they have the right to enter into contracts with whomever they please."¹⁴ Moreover, Alaskan Northwest and Foothills have failed to persuade the DOE that the public interest requires a change in the current unencumbered status of North Slope gas by, in effect, imposing an easement on these reserves in favor of ANGTS.¹⁵

In any event, the DOE reiterates that Order 350 does not affect any rights of Alaskan Northwest and Foothills to North Slope natural gas. Prior to the issuance of Order 350, Alaskan Northwest and Foothills were free to contract with the North Slope producers for their gas reserves. Following its issuance, they continue to be free to make such contracts. Order 350 does not (1) restrict the rights of Alaskan Northwest and Foothills to contract for North Slope gas, (2) commit any amount of this gas to Yukon Pacific, or (3) grant Yukon Pacific any right to contract for this gas that it did not have prior to issuance.

C. Order 350 Does Not Represent Either a Taking or a Violation of Substantive Due Process with Respect to ANGTS.

Closely related to the arguments that Order 350 is inconsistent with the framework of ANGTA and that North Slope natural gas belongs to the ANGTS project is the contention that Order 350 constitutes a taking of property and a violation of substantive due process.¹⁶ Alaskan Northwest and Foothills argue that Order 350 was adopted arbitrarily and without proper consideration of their exclusive and perpetual franchise to develop North Slope gas and to deliver this gas to the lower-48 states and thus deprived them of their property rights and legitimate expectations under ANGTA. ANGTA, however, did not grant the sponsors of ANGTS an exclusive and perpetual franchise or any other shield against competition. Accordingly the authorization of a competing project cannot be equated

¹² See Alaskan Northwest's stated errors (1)(c) and (2) in the appendix of this order; see also Foothills' stated errors (1), (2), (3), and (5)(c).

¹³ See Order 350, at pages 38-39, for a discussion of the status of North Slope gas.

¹⁴ *Id.*, note 81, at 39.

¹⁵ For example, Foothills contends that if Order 350 is not rescinded, the DOE should attach a condition to the authorization "which

limits the proposed exports to volumes of Alaskan gas that are demonstrated to be in excess of the proven reserves required to finance and complete the ANGTS. . . ." See Foothills' application for rehearing at 2; see also Alaskan Northwest's application for rehearing, at 6.

¹⁶ See Alaskan Northwest's stated errors (1)(c), (6), and (7) in the appendix of this order; see also Foothills' stated errors (8) and (11).

with either a taking or a violation of substantive due process.¹⁷

ANGTA was primarily a procedural statute intended to minimize regulatory impediments to bringing North Slope gas to the lower-48 states by the early 1980s. To this end, in lieu of the protracted selection process at the Federal Power Commission, ANGTA substituted a mechanism by which the President, with Congressional approval, could designate the sponsors and the route for a transportation system to bring North Slope natural gas to the lower-48 states. ANGTA also eliminated or minimized certain statutory or regulatory requirements that the persons selected to build and operate the system would otherwise encounter before commencing construction. ANGTA did not provide the sponsors of the approved system with a monopoly franchise that prohibits development of North Slope natural gas until they decide the time is right to get their project underway. Nor did it bar competing developers of North Slope gas from securing the necessary governmental authorizations through the standard permit process without the advantages granted the sponsors of ANGTS.

In sum, ANGTA was intended to expedite development of North Slope natural gas, not to lock up this vast energy resource. ANGTA cleared the administrative path for obtaining the necessary federal permits and authorizations; it did not interdict marketplace competition over North Slope gas. Alaskan Northwest and Foothills have no property right or legitimate expectation on which to challenge Order 350 merely because it authorizes a competing project. The DOE crafted Order 350 so that it does not interfere with any of the statutory privileges granted Alaskan Northwest and Foothills by ANGTA. If these privileges have been diminished in value over time, it is not the result of any action or inaction by the U.S. Government.

¹⁷ See Order 350, at 39.

¹⁸ See Alaskan Northwest's stated errors (3)(a), (3)(b), (3)(c), (3)(d), and (5) in the appendix of this order; see also Foothills' stated errors (5)(a), (5)(b), (5)(c), (5)(d), (5)(e), (5)(f), (5)(g), and (6).

¹⁹ See Order 350 for a discussion of DOE's findings concerning the public interest, at

D. Order 350 Is Based on Evidence in the Record That the Export Project Is Not Inconsistent with the Public Interest, Including, the Environmental and Domestic Need Aspects of the Public Interest.

In addition to their arguments concerning the effects of Order 350 on ANGTS, Alaskan Northwest and Foothills contend that Order 350 is not consistent with the public interest and, in particular, that it misjudges the effects of the export project on the environment and the domestic need aspects of the public interests.¹⁸ They have failed to provide, however, any additional evidence that undermines either the substantial evidence in the record or the statutory presumption that supports the public interest finding in Order 350.¹⁹

As part of its public interest determination, the DOE weighed the effects of the export project on the environment. Order 350 took into account the Final Environmental Impact Statement (FEIS)²⁰ on the export project and other environmental considerations such as the implications of the accident involving the oil tanker Exxon Valdez that occurred off Alaska after the FEIS was issued. Order 350 found that the environmental effects of the export project "are relatively minor and can be mitigated, and thus are environmentally acceptable, especially when balanced against the substantial economic benefits to be derived from the project." Order 350 requires the export project to "be implemented in accordance with all applicable environmental procedures and requirements" and to "comply with all preventive and mitigative measures imposed by Federal and State agencies to protect the public health, safety and environment." In conjunction with the issuance of Order 350, the DOE issued a *Record of Decision* pursuant to the regulations of the Council on Environmental Quality (40 CFR 1505.2) and the DOE's guidelines for compliance with the National Environmental Policy Act of

pages 18-30 (domestic need), 31 (American consumers), 31-32 (efficient energy production), 32 (State of Alaska), 33-35 (international effects), and 35-38 (environment).

²⁰ *Trans-Alaska Gas System Final Environmental Impact Statement* (FEIS BLM-AK-PT-88-003-1792-910, June 1988) DOE/EIS-0139.

1969 (NEPA) which documents the manner in which DOE considered the environmental issues in its decision-making process.²¹

The DOE's public interest determination focused on domestic need for North Slope gas. In assessing domestic need, Order 350 did not conclude North Slope natural gas could not or would not be used in the domestic market. Rather, it found there exist large reserves of natural gas in North America within or below the reasonably anticipated cost range of North Slope natural gas that are more than sufficient to meet anticipated domestic need without any significant market distortions, even if North Slope natural gas does not flow to the lower-48 states during the term of the proposed exports. Thus, North Slope natural gas is not needed to meet anticipated domestic demand.

The crux of Alaskan Northwest's and Foothills' domestic need argument is the reliability of resource base estimates for projecting long-term domestic supply. Foothills state that the authorization was "based on a reckless wager that so-called 'potential' reserves will eventually be forthcoming and, if not, the deficiency can always be made up by foreign imports."²² As demonstrated in Order 350, any projection of long-term supply must incorporate the addition of reserves in the future.²³ Not recognizing this potential would be to ignore decades of historical record in which reserve addi-

tions have occurred year after year. There is nothing to suggest that this process will suddenly terminate in the near future. In addition, any decision based on the current stock of reserves alone would be distorted, if not outright absurd, since it necessarily would have to assume the U.S. will run out of natural gas before the end of the century.

The DOE believes that the gas resource base estimates for the U.S. published by the Potential Gas Committee,²⁴ the U.S. Geological Survey, and DOE/Argonne National Laboratories (DOE/Argonne) that were considered in the decision to grant the export application are credible.²⁵ They reflect the consensus in the energy community that additional gas resources beyond proved reserves can be discovered and produced with foreseeable technology and economic conditions.

Alaskan Northwest maintains that North Slope gas is needed domestically because supplies in the lower-48 states costing less than \$3.00 per Mcf wellhead price in 1987 dollars plus potential Canadian pipeline gas and LNG imports are insufficient to meet the DOE's postulated demand of 725 quads through 2021.²⁶ Alaskan Northwest implies that DOE should not consider as an additional source of gas supply the 174 Tcf in the lower-48 states which the DOE/Argonne estimate indicates would be recoverable in a wellhead price range of \$3.00 to

²¹ 54 FR 49337 (November 30, 1989). Alaskan Northwest and Foothills argue that the DOE did not comply with NEPA in issuing Order 350. A section 3 rehearing, however, is not the proper forum to consider compliance with the NEPA process. A section 3 rehearing reviews DOE's public interest determination, including the extent to which the determination took into account the environmental aspects of the public interest. In Order 350, consideration of the environmental aspects of the public interest resulted in the inclusion of several environmental conditions. A section 3 rehearing does not review procedural compliance with NEPA. The DOE's compliance with the NEPA process is set forth in the *Record of Decision* which represents final agency action on NEPA procedural matters. There is no provision for an administrative review (such as a section 3 rehearing) of a record of decision. See 40 CFR Parts 1500-1508.

²² See Foothills' application for rehearing, at 11.

²³ See Order 350, at pages 22-24, for a full discussion of reserves.

²⁴ The Potential Gas Committee is made up of a group of volunteer industry and governmental experts in the area of natural gas supply.

²⁵ The DOE notes that the resource amounts of all three appraisals are significantly less than a more recent report in late 1989 (on which Order 350 did not rely) from the American Association of Petroleum Geologists (AAPG). The AAPG report, "New Approaches to Gas Resource Evaluation," indicates the gas resource base in the lower-48 states is 869 Tcf at \$3.00/Mcf or less and 1,399 Tcf assuming \$5.00/Mcf. By comparison, the 1988 DOE/Argonne study estimated that 757 Tcf is recoverable at \$5.00/Mcf or less, of which 583 Tcf is recoverable under \$3.00/Mcf. See AAPG *Explorer*, September 1989, at 9.

²⁶ See appendix attached to Alaskan Northwest's application for rehearing, at 24.

\$5.00 per Mcf (1987 dollars).²⁷ In effect, Alaskan Northwest asserts that North Slope gas must be considered "needed" because of its prediction that the ANGTS can deliver gas to the U.S./Canada border at a price of \$3.00 per Mcf (1987 dollars), the sum of the wellhead price at which producers will produce and sell their gas (\$0.54)²⁸ and the cost of service estimate for pipeline transportation (\$2.46) to the border.²⁹ This argument is flawed in two significant aspects.

First, this argument reduces the need analysis to predictions about the future prices of various gas supplies. The DOE does not believe need can be determined simply by comparing predicted prices, even if gas prices could be predicted precisely ten to 20 years into the future. The need analysis is primarily an assessment of whether sufficient supplies can reasonably be expected to be available to meet anticipated demand. Of course, this assessment must take into account that the costs of bringing some supplies to

market may be so significantly higher than the anticipated market price that their use would be precluded in an efficient market. Alaskan Northwest and Foothills, however, have failed to demonstrate that the costs of any of the supplies considered by the DOE in Order 350, including gas producible at \$3.00-\$5.00 per Mcf in much more accessible areas than the North Slope, would be so high that they may not reasonably be considered available to meet anticipated demand during the term of the proposed export.

Second, assuming *arguendo* that need for a particular supply were determined solely by comparing predicted prices, Alaskan Northwest and Foothills have not provided credible evidence to permit such a comparison in this case. The price of \$3.00 per Mcf that they assert that North Slope gas delivered by ANGTS would cost at the U.S./Canada border is mere speculation since it is based on a North Slope

²⁷ *An Assessment of the Natural Gas Resource Base of the United States* (May 1988), prepared by Argonne National Laboratory for the DOE's Office of Policy, Planning, and Analysis.

²⁸ The \$0.54 figure appeared in a study by Dames & Moore and Decision Focus, Inc., included as Exhibit R to "Initial Comments" filed by Yukon Pacific on August 24, 1988. It was subsequently adopted by the ANGTS sponsors without any further explanation other than its use by Yukon Pacific. The Dames & Moore study did not say how it arrived at this figure.

²⁹ Alaskan Northwest asserts that the cost of transporting North Slope gas from the U.S./Canada border to Chicago and California would be \$0.50/Mcf. At the same time, it suggests that the costs of transporting lower-48 supplies from the wellhead to the city gate would be \$1.20. (See Alaskan Northwest's application for rehearing, appendix, at 20). Alaskan Northwest posits the \$1.20 figure by subtracting average domestic wellhead prices from average city gate prices. (See Energy Information Administration, *Monthly Energy Review*, July 1989, Table 9.11, at 109). The DOE believes this comparison is not appropriate and is misleading.

The DOE has looked at the current cost of delivering Canadian gas to Illinois and California by means of the Eastern and Western Legs of the prebuild (their present termini are in Iowa and Oregon) and the cost of delivering gas from traditional lower-48 sources. The data was derived from the Dun and Bradstreet "Official Pipeline Guide", a computerized

information system for determining least-cost point-to-point U.S. pipeline transportation charges. The results show that in February 1990 gas could be delivered from the Saskatchewan/Montana border via the Eastern Leg prebuild and certain interconnecting pipelines to central Illinois (Tuscola) for \$1.03/Mcf. It cost \$0.60/Mcf to transport gas from the British Columbia/Idaho border via the Western Delivery System (which comprises the Western Leg prebuild) to the Arizona/California border. Much of the supply for California originates in Texas and New Mexico and production in Oklahoma and Louisiana is shipped to Illinois. Gas could be transported from west Texas and New Mexico to the southern California border for \$0.27/Mcf. To transport gas from Oklahoma and south Louisiana to Tuscola would cost \$0.62 and \$0.46/Mcf, respectively.

In light of the current situation, it is reasonable to assume that there would be comparable transportation costs within the lower-48 states for North Slope gas and alternative supplies. In addition, with the advent of open-access transportation, domestic pipelines will continually be under pressure to keep prices competitive to attract customers. Furthermore, California would be able to acquire supplies from new production regions of the Rocky Mountains through the proposed pipelines of Wyoming-California Pipeline Company and Kern River Gas Transmission Company between Wyoming and California that received final FERC certificates early this year and are expected to begin operation in 1991 with transmission costs of \$0.64 and \$0.99, respectively.

wellhead price of \$0.54 per Mcf.³⁰ Alaskan Northwest offers no reason in its application for rehearing to persuade the DOE that North Slope producers consider \$0.54 a sufficient price to recover fully their costs. In fact, Alaskan Northwest admits:

One can only speculate about actual wellhead prices, as they will be determined through negotiations between individual producers and purchasers of North Slope gas. . . . [T]he wellhead price of \$0.54 (1987 dollars) . . . may be inaccurate.³¹

In addition, Alaskan Northwest and Foothills also argue that the presence of North Slope gas in various natural gas studies, including those of the Gas Research Institute, Data Research Institute/McGraw-Hill, and the American Gas Association (AGA), constitutes convincing evidence of the need for this gas in the lower-48 states.³² For example, Foothills' application for rehearing states, "AGA concludes that 'Alaskan gas becomes available before 2000 with the construction of a pipeline system to deliver those supplies.' (Emphasis added)."³³

The DOE did consider these studies but did not find them convincing concerning domestic need for North Slope gas.³⁴ They do not conclude that this gas is needed. At most, they conclude that this gas would be available to the domestic market if the ANGTS is built. Such a conclusion necessarily flows from the standard approach used for models involving North Slope gas. Forecasters program this gas supply into the models because they assume that ANGTS will be built and therefore that North Slope gas necessarily will flow through it some day to the lower-48 states. The consumption of North Slope gas in the lower-48 states is, in effect, a foregone conclusion of these models and the only variable is the completion date of

the ANGTS. As such, they reflect an assumption, and the possibility that it may be more efficient not to use North Slope gas in the domestic market is ignored. The DOE does not find the circular reasoning that relies on such studies to be enlightening when examining the domestic need for North Slope gas.

To summarize, Alaskan Northwest and Foothills have presented no new evidence or arguments that persuade the DOE to reconsider its determination that the export of North Slope gas is not inconsistent with the public interest. With respect to the environment, they provide no substantive basis to change the measures in Order 350 to protect the environment. With respect to domestic need, they give no compelling reason demonstrating that the analysis or conclusions in Order 350 were in error. Rather, they seek to confuse the possibility that North Slope gas may be consumed in the lower-48 states with a conclusion that North Slope gas is needed. The DOE's assessment was based on the outlook for natural gas demand, the outlook for supply, the availability of energy supplies with comparable or lower costs than North Slope gas, and the likelihood that the absence of North Slope gas would result in significant distortions in the U.S. energy market. As a result of this assessment, Order 350 concluded that North Slope gas is not needed in the lower-48 states during the 25-year term of Yukon Pacific's proposed export.

E. Order 350 Was Adopted in Accordance with All Applicable Statutory, Regulatory, and Procedural Due Process Requirements.

Throughout this proceeding, Alaskan Northwest and Foothills have contended that certain statutory, regulatory, and procedural due process requirements were not followed.³⁵ The DOE does not agree.

³⁰ For purposes of argument, the DOE is not questioning the transportation component of the \$3.00 price. However, the cost of service projected by the ANGTS sponsors from Alaska through Canada to the U.S. border of \$2.46, which is based on a June 1988 revised capital cost estimate for the remaining, unconstructed elements of ANGTS, has not been examined, much less approved, by any regulatory body.

³¹ See Alaskan Northwest's application for rehearing, at 19 and 23.

³² See Appendixes D-G attached to Foothills' application for rehearing.

³³ *Id.*, at 39.

³⁴ See Order 350, at 18-20, particularly note 36.

³⁵ See Alaskan Northwest's stated errors (7) and (8) in the appendix of this order; see also Foothills' stated errors (4), (6), (9), (10), and (11).

The DOE considered Yukon Pacific's application to export North Slope gas in accordance with all applicable statutory, regulatory, and procedural requirements. In particular, all parties were given the opportunity to submit written comments and reply comments and to participate in a public conference in Anchorage, Alaska. All parties were given ample opportunity to present arguments and data to support their positions and to examine thoroughly the positions of the other parties. Additional procedures were not and are not now necessary to develop more fully any disputed relevant and material factual issue.

Alaskan Northwest and Foothills have not demonstrated that any material issues of fact are genuinely in dispute or that any additional action, including a trial-type hearing, is necessary for a full and true disclosure of the facts. Alaskan Northwest and Foothills are not entitled as a matter of right to a trial-type hearing concerning policy or legal issues.

At every stage of this proceeding, the DOE has acted in accordance with all applicable statutory, regulatory, and procedural requirements. There exists a fully developed record, compiled with due regard for the rights of all parties, on which the DOE made a reasoned decision in Order 350.³⁶

F. Order 350 Does Not Restrict Improperly the Authority of Either FERC or OFI.

Alaskan Northwest and Foothills argue that Order 350 improperly limits the authority of the FERC and OFI.³⁷ There is no basis for this allegation.

With respect to the FERC, the DOE Act explicitly grants the Secretary of Energy all authority conferred under the NGA over imported and exported natural

gas. While the Secretary has retained the policy-making aspects of this authority within the DOE, certain technical aspects of this authority, especially in the areas where imported and exported natural gas mix with interstate gas, have been delegated to the FERC. The delegation of authority to the FERC is clear that this delegated authority over imported and exported natural gas must be exercised in accordance with the DOE's policies and any specific conditions in the DOE's import and export authorizations.³⁸

Order 350 limits the FERC's jurisdiction over this export project so that it would not exercise unnecessary regulation over the entire project merely because gas molecules destined for foreign countries may be combined with "interstate gas molecules" from ANGTS destined for lower-48 markets. Order 350 does not create any regulatory gap concerning the project and preserves the FERC's authority to regulate shared facilities where it has a legitimate interstate commerce interest. It also preserves the FERC's authority over the export site. By ruling out, on environmental grounds, all export sites except Valdez, Order 350 was exercising the site veto function retained within DOE. Order 350 does not affect the FERC's authority to approve or disapprove the Valdez export site.³⁹

With respect to OFI, Reorganization Plan No. 1 of 1987 explicitly provides that the Federal Inspector shall follow the policies of the agency from which the enforcement function the Inspector is exercising has been transferred. Order 350 sets forth DOE's policy that the "ANGTA condition" not be used as a dilatory tactic to impede the export project. Requiring this condition to be enforced expeditiously and on the basis of facts rather than speculation does not abridge the authority of the

³⁶ See Order 350, at 9-11.

³⁷ See Alaskan Northwest's stated error (4) specified in the appendix of this order; see also Foothills' stated error (7).

³⁸ See Order 350 note 18, at 7, note 32, at 16, note 34, at 17, and note 79, at 37. These footnotes detail (1) how the DOE Act granted the Secretary of Energy exclusive jurisdiction to regulate natural gas imports and exports, (2) how DOE Delegation Order No. 0204-127 delegates this broad grant of regulatory authority to the Assistant Secretary for Fossil Energy, (3) how DOE Delegation Order No. 0204-112 delegates the FERC limited authority under

sections 4, 5, and 7 of the NGA to regulate natural gas imports and exports in interstate commerce, subject to the policies of the DOE and any conditions in DOE import and export authorizations, and (4) how DOE Delegation Order No. 0204-112 delegates the FERC limited authority under section 3 of the NGA to regulate export and import sites, subject to the policies of the DOE, any conditions in DOE import and export authorizations, and the veto by the DOE of a particular site. See also *Trans-Canada Pipelines v. FERC*, No. 87-1229, June 16, 1989.

³⁹ See Order 350, at 41-44.

Federal Inspector to carry out the functions of the office.⁴⁰

G. Conclusion

The DOE issued Order 350 after a thorough examination of whether exports of North Slope gas would be inconsistent with the public interest. The DOE found that there are sufficient supplies of natural gas available in North America and elsewhere to meet anticipated domestic demand without market distortion if North Slope gas is exported. The DOE also found that the export of North Slope gas would be consistent with other public interest considerations, including protection of the environment.

The applications for rehearing filed by Alaskan Northwest and Foothills did not contain any basis for the DOE to reconsider its findings in Order 350. Alaskan Northwest and Foothills neither refuted the substantial record evidence on which these findings were based nor carried their burden concerning the statutory presumption in section 3 of the NGA that natural gas exports are consistent with the public interest.

Alaskan Northwest and Foothills sought in their applications for rehearing, as they have throughout this proceeding, to infer that this export application was different than other section 3 proceedings. Many of their arguments assert that the ANGTA framework, in effect, reverses the presumption favoring natural gas exports and creates different standards for evaluating exports of North Slope gas. Although the DOE can find no legal basis for such a proposition, it did consider the policy basis of the ANGTA framework in the context of the public interest standard of section 3 of the NGA. This consideration led the DOE to include the "ANGTA condition" in Order 350 to preserve the physical integrity of ANGTS. The DOE crafted Order 350 carefully to ensure that it did not interfere with any of the privileges of the ANGTS sponsors or their ability to negotiate contracts to secure North Slope reserves for ANGTS. Alaskan Northwest and Foothills, however, have not persuaded the DOE that either the public interest or any provision of the ANGTA framework requires it to interdict competition over North Slope gas.

Order 350 does not dictate how North Slope gas will be developed. Those decisions continue to be left to private parties. Order 350 merely complies with the DOE's obligation to authorize natural gas exports where there is no showing such exports would be inconsistent with the public interest. There is no provision in the ANGTA framework or elsewhere that changes this obligation in situations involving competition over North Slope gas.

III. Request for Clarification

On December 15, 1989, Yukon Pacific requested clarification or, in the alternative, rehearing of Order 350. Yukon Pacific asks the DOE to clarify that, in the event the quantity of LNG exported in a given year is below the annual volume limitation, it is authorized to increase exports in succeeding years to make up the deficiency. Yukon Pacific asserts that this would enhance its ability to develop and initiate long-term sales arrangements and would provide latitude should actual deliveries in some years prove to be smaller than anticipated.

The DOE's imposition of the 14 million metric ton (MMT) annual export ceiling was based on the perceived intention of Yukon Pacific to deliver only up to that volume and is reflective of Yukon Pacific's application. However, it is reasonable that Yukon Pacific be permitted to increase the quantity of LNG exported in succeeding years until it makes up any deficiency in a year in which deliveries did not equal 14 MMT, as long as the aggregate amount during the term of the authorization does not exceed 350 MMT.⁴¹ Accordingly, we are modifying Ordering Paragraph A of Order 350 in a manner that will give Yukon Pacific more flexibility to structure contracts tailored to the individual needs of its customers and to manage deliverability fluctuations.

IV. Decision

The applications for rehearing filed by Alaskan Northwest and Foothills present no information that would merit reconsideration of our findings in Order 350. Accordingly, their requests for rehearing are denied.

⁴⁰ *Id.*, note 83, at 41.

⁴¹ 14 MMT × 25 years = 350 MMT.

The application for clarification filed by Yukon Pacific involves a reasonable modification of the authority in Order 350 that does not affect the DOE's decision to grant the authorization. Accordingly, its request is granted.

ORDER

For the reasons set forth above, pursuant to section 3 and 19 of the Natural Gas Act, it is ordered that:

A. Ordering Paragraph A of DOE/FE Opinion and Order No. 350 (Order 350) issued November 16, 1989, to Yukon Pacific Corporation is hereby modified to read as follows:

A. Yukon Pacific Corporation (Yukon Pacific) is authorized to export for sale to Japan, South Korea, and Taiwan a total of up to 350 million metric tons (MMT) of liquefied natural gas (LNG), at an average annual volume of 14 MMT, for a period of 25 years beginning on the date of the first delivery, upon the conditions herein set forth.

B. All other terms and conditions of Order 350 remain in effect.

C. The application for rehearing of Order No. 350 filed by Alaskan Northwest Natural Gas Transportation Company and Foothills Pipe Lines (Yukon) Ltd. are denied.

Issued in Washington, D.C., on March 8, 1990.

Appendix

List of Errors in DOE/FE Opinion and Order No. 350 Alleged by Alaskan Northwest Natural Gas Transportation Company and Foothills Pipe Lines (Yukon) Ltd.

A. Alaskan Northwest *

(1) DOE's conditional export authorization, by failing to attach protective conditions to ensure compliance with ANGTA, represents an impermissible extension of DOE's statutory authority and, accordingly constitutes legal error in the following respects:

(a) DOE's Order threatens to " . . . compel a change in the basic nature . . . of the approved transportation system or would otherwise prevent or impair in

any significant respect the expeditious construction and initial operation" of the ANGTS and, accordingly, fails to comply with the mandate of section 9 of ANGTA;

(b) DOE's Order authorizes the diminution of the total quantity and quality of energy resources available to the U.S. on a price-competitive basis, in contravention of the mandate of section 12 of ANGTA;

(c) DOE's Order, with respect to its findings of possible future delivery of TAGS export volumes to American consumers, contravenes the exclusive right of the ANGTS to deliver North Slope gas to lower-48 states' consumers.

(2) DOE's Order contravenes the President's September 22, 1977, decision concerning ANGTS and prior U.S.-Canadian commitments.

(3) DOE's findings relevant to the analysis of "public interest" under section 3 of the NGA are (i) not supported by substantial evidence; and/or (ii) represent an abuse of agency discretion. In particular:

(a) DOE's findings respecting "domestic need" are not supported (and are, in fact, undermined) by record evidence;

(b) Insufficient record evidence has been developed to support claimed trade and other international benefits;

(c) DOE's findings with respect to impacts on national energy security, and the equating of national energy security to "global market efficiency" are not supported by record evidence and represent an abuse of discretion; and

(d) DOE's findings respecting environmental impact are incomplete and otherwise not supported by record evidence.

(4) DOE's limitation of Federal Energy Regulatory Commission (FERC) jurisdiction over the Alaskan Gas Conditioning Facility constitutes legal error.

(5) DOE has abrogated its statutory responsibilities under the National Environmental Policy Act (NEPA) by failing to consider environmental consequences associated with, *inter alia*, with: (1) gas

* See Alaskan Northwest's application for rehearing at 7-10.

conditioning arrangements for volumes proposed to be exported and (2) marine transportation hazards and interactions of LNG and oil tankers at Port Valdez and in transit through Prince William Sound.

(6) The issuance of export authorization to Yukon Pacific, in the absence of protective conditions urged by Alaskan Northwest, deprives the ANGTS sponsors of legal rights and priorities established through prior Congressional, regulatory and Presidential orders, the deprivation of which constitutes an unlawful taking under the Fifth Amendment of the U.S. Constitution.

(7) DOE's Order was issued without regard to requirements of procedural and substantive due process.

(8) DOE's failure to attach informational and filing requirements to mitigate potential regulatory gaps in arbitrary, capricious, and an abuse of discretion.

B. Foothills **

(1) DOE erred in finding that approval of the proposed export is consistent with the intent, policies, and framework of ANGTA.

(2) DOE erred in failing to recognize that approval of the proposed export is inconsistent with the Presidential and Congressional decisions approving the ANGTS under ANGTA.

(3) DOE erred in finding that approval of the proposed export is inconsistent with the 1977 U.S.-Canadian agreement on principles and other commitments made by the U.S. to Canada in connection with the ANGTS.

(4) DOE erred in finding that there is a statutory presumption favoring exports of Alaskan North Slope gas.

(5) DOE's approval of the proposed export is arbitrary, capricious, abusive of the government's discretion, and unsupported by either rational findings or substantial evidence of record.

(a) DOE erred in failing to take a hard look at all pertinent issues and to make rational findings with respect to those issues.

(b) DOE erred in approving the proposed export prior to completion and full consideration of the National Energy Strategy.

(c) DOE erred in finding that approval of the proposed export will not significantly impair the expeditious construction and operation of the ANGTS.

(d) DOE erred in finding that North Slope gas will not be needed during the term of the proposed export to provide American consumers with adequate gas supplies at reasonable prices.

(e) DOE erred in finding that the proposed export will not diminish U.S. energy security or otherwise adversely affect the quantity, quality, or price of energy available to American consumers.

(f) DOE erred in finding that approval of the proposed export would benefit American consumers, encourage increased energy production, create benefits for the State of Alaska that would not otherwise be available, and benefit international relations.

(g) DOE erred in finding that the proposed export project is environmentally acceptable.

(6) DOE erred in failing to comply with NEPA and the regulations thereunder.

(7) DOE exceeded its statutory authority in attempting to limit the FERC's jurisdiction over the TAGS project in the event TAGS and the ANGTS share a facility that is subject to the FERC's interstate commerce jurisdiction.

(8) DOE's approval of the proposed export constitutes an unlawful taking of property rights of the ANGTS sponsors.

(9) DOE erred in failing to enforce and follow its own regulations on exports of natural gas.

(10) DOE erred in failing to convene a trial-type hearing.

(11) DOE unlawfully deprived the ANGTS sponsors of procedural and substantive due process.

** See Foothill's application for rehearing at 13-14.